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## DISCUSSION ON TORQUAY CONGRESS PAPERS.

### No. 2—The Clinical Aspect of Mange and Eczema in the Dog.*

The President, who was in the chair at this session, held on Wednesday, 14th September, at 9-30 a.m., briefly introduced the subject and asked Major Chambers if he had any preliminary remarks to make.

Major F. Chambers: I am afraid that this paper is very incomplete because the subject is one of tremendous importance, and one could easily write an essay which would probably fill the whole book, without any other papers at all, and when I was told that my paper could not exceed 3,000 words I must confess I did not realise what that limit meant. I proceeded to write at intervals, and when I had finished I found I had written between 10,000 and 11,000 words.

The next question was: What could I cut out without making the paper appear an absurd skeleton? I tried to eliminate as far as possible all matter of a theoretical character which really had no very great interest to the practitioner; by that I mean regarding eczema, which, as you know, is a most weird complaint, and I do not think we understand it properly. I have waded through acres of foreign literature, especially American, and everybody seemed to say something different, and therefore I thought that if I put in an outline of what eczema is supposed to be caused by, there were better men than myself who could fill in the gaps.

The same problem does not apply to sarcoptic mange, but when you get to follicular mange you find divisions that are more puzzling than in eczema itself. I hope to be repaid by getting some knowledge of this most distressing and difficult condition.

The President: Before calling on Captain Dunlop Martin to open the discussion, I think it would be well to have some understanding as to the length of time to be allowed to speakers. In a paper of such widespread interest as this is, there is no doubt that many of you will wish to join in the discussion. I propose to limit the openers of the discussion to ten minutes each, and the subsequent speakers to five minutes each. (Hear, hear.)

Captain G. Dunlop Martin (Westcliff-on-Sea): I would first like to congratulate Major Chambers on his choice of a subject for his paper to-day, because for those veterinary surgeons, at any rate, whose practices are almost entirely among the smaller animals, diseases of the skin embraced under the heading of the paper probably form such a large proportion of their daily work that there is, I venture to suggest, no subject he could have selected that would have been likely to bring about a more interesting and profitable discussion. The difficulty is that the subject is so vast and there is so much that one would like to be able to discuss, that in the necessary limitation as to time, one hardly knows where to begin and where to leave off.

Regarding eczema, Tilbury Fox's (that great dermatologist's) definition of eczema is practically identical with that of Morris.

Cranston Low represents another school of opinion which contends that the term eczema is a source of confusion, and prefers the name dermatitis for all reactions to external irritants.

Then we have skin specialists of equal eminence who distinguish between what they think true or diathetic eczema and eruptions of a similar type produced by external irritation.

Diathetic eczema is described as being due to a disturbance of metabolism with exaggerated vulnerability of the skin. Given that this is so, how far is this exaggerated vulnerability of the skin the result of the activity associated with the change of coat of the spring and autumn?

The large majority of our cases are undoubtedly of this type, though we do, of course, see many cases exhibiting very similar lesions whose history proves them to have resulted from prolonged irritation by licking of quite insignificant injuries, for example, to the skin of the flank or of the interdigital spaces.

Eczema, in my experience, is not mostly seen in dogs with non-pigmented skins, the worst cases I can recall occurring in Airedales, Irish Terriers, Pekinese and Chows. Believing, as I do, that a very large amount of the eczematous skin trouble of dogs is more or less directly due to the feeding of too much starchy heating food in some form of biscuit or meal, it really does appear to me that we veterinary surgeons, knowing how this condition of things is so largely the result of the ceaseless, persistent propaganda of the biscuit maker, should take every opportunity that presents itself—whether in one's surgery or elsewhere—of impressing on the dog owner the wisdom and advantage of dieting a dog on rational and natural lines, and of avoiding the more or less harmful starchy foodstuff presented by the biscuit, whose one and only recommendation, in my opinion, is its convenience.

Again, assuming that in man many cases arise from absorption from the bowel, and carrying over this analogy to the dog, I hold the opinion that retention of the secretion of the anal glands in certain cases is associated with absorption of some of that secretion having as result a toxæmia, and eczema as a sequel. I have met with numerous cases in which careful attention to the condition of these glands has been followed by remarkably rapid clearing of the skin lesions.

As to treatment, in acute moist eczema my sheet anchor is usually a lotion liq. picis carb. and liq. plumbi, and with the addition, if the oozing of serum is profuse, of

* Paper presented by Major Frank Chambers, O.B.E., F.R.C.V.S., Wolverhampton.

zinc carbonate. This is applied every three or four hours until the oozing ceases and the area becomes dry, after which some soothing and softening ointment can be applied with advantage, but I consider that anything greasy is distinctly contra-indicated in the early stages. Later, dusting with starch, acid boric or zn. oxide, often appears to be comforting to the patient—or tannoform and boric acid together (1—7).

What one is much impressed with in many cases is the intensely painful nature of the trouble in its early weeping stages, and in these cases some sedative is absolutely called for before one can possibly give the necessary attention to a patient.

Morphia acts like a charm often and chloretone in appropriate doses to follow is of the greatest assistance both in keeping the patient from doing himself harm and in saving him from much irritation and suffering.

One cause apt to be forgotten, I am sure, is excessive washing, while going into sea water is another determining factor. Mag. sulph. in small doses, three times a day, later combined with arsenic in small doses, I find useful in internal medication.

Regarding mange proper, Major Chambers has given so good and so exhaustive an account of this disease that I have little or nothing to add except that as to the demodectic or follicular variety there appears to be an urgent necessity for research into the condition with a view to discovering what determines that the demodex becomes pathogenic. It seems to be generally agreed that some one of the many varieties always present in adults may be found on all kinds of small animals (according to Brumley), though the dog is the principal sufferer and cats are rarely affected. Personally, I have never seen it in the cat, or perhaps I should say, more correctly, never recognised it.

Diagnosis. Here the essayist gives us counsel of perfection, when he says that scrapings should be taken in every case of skin affection. It is, no doubt, desirable, but for the single-handed and busy practitioner an impossibility, and he must therefore, except in what may appear to him to be doubtful cases, rely on his senses of sight, touch, etc., for his diagnosis.

Treatment is apt to be unsatisfactory if the case is at all extensively affected. (1) Preliminary cleansing with æther followed by brushing in of 2 per cent. iodine in æther. Mercurophen, as advocated by Major Chambers, I have found efficacious, but 5—10 per cent. zn. cl. well rubbed in with a stiff brush is as good as any. In all cases I believe much good may result from the early application of a staphylococcic, streptococcic bacterin simultaneously with whatever form of external treatment is adopted.

It is the method of application, rather than the actual medicament, that counts. I have no experience of ultra-violet rays.

Major W. N. Wright (Torquay): In conjunction with Captain Dunlop-Martin, I wish to thank Major Chambers for his very excellent paper. I am afraid he has me to thank for putting him to that trouble, as I suggested a paper on skin disease in the dog to our President, the reason being that in my practice in Torquay and district I have so many cases. Geographically, we have the experience of Major Chambers, practically in the middle of England, Captain Dunlop Martin in the South-East, and myself in the South-West. If, besides others, members from the North will join the discussion it should be interesting.

As regards eczema, I have not noticed whether pigmented or non-pigmented dogs suffer differently, but I consider I have many more cases with hard-coated dogs than smooth. I find that what I consider my true cases of eczema, and which respond to the treatment for that disease, sooner or later always have a congested state of the mucous membrane of mouth, offensive breath, and symptoms of a disordered digestion, and the general history of the case points to that. Also I find that a number of cases which have apparently quite recovered from gastric catarrh, gastritis, or intestinal trouble show great irritability of the skin practically all over the body, and yet nothing can be seen to account for that irritability. This, I consider, points to eczema being in a great measure due to a disordered digestive system and, owing to its constitutional nature, it is difficult to treat with success.

I consider that the humid salt air here favours skin disease in dogs which have a tendency that way, much more than the air of a bracing place, as a number of imported dogs break out within a short time of arrival here, which are reported never to have had the disease before.

As regards mange, sarcoptic and demodectic are my most frequent forms, and I believe that in 75 per cent. of the cases owners bring to me as eczema I find the naked eye appearance of sarcoptic mange, while in many cases I have found the parasite microscopically, sometimes after a great deal of trouble.

I attend a good many of our championship dog shows and visit a number of kennels belonging to successful exhibitors in the course of my showing of dogs, and I have been shown pedigree dogs as "out of coat" and having "eczema" which had every appearance of mange.

While on this subject of showing dogs, I do think that a great responsibility rests with veterinary surgeons who inspect dogs for shows in preventing the entry to shows of dogs not only suspicious of distemper, but also of skin and ear disease. The handling by judges and others, I am sure, is responsible for many outbreaks of skin and ear disease in show kennels, causing great suffering among the animals and great monetary loss to their owners.

I should like the opinion of the essayist and the meeting generally as to the advisability of suggesting that dog shows should return half the entry fees of dogs rejected by the veterinary surgeons for suspicious symptoms of contagious and infectious disease, as it is not always the owner's fault that such dogs are brought to shows from long distances at great expense, in all good faith.

For the treatment of skin disease in dogs, generally, as the essayist says, the affected parts must be clipped and cleaned, but I do not think he emphasises sufficiently the gentle but thorough cleaning of the affected parts with water and mild antiseptic soap. I use biniodide of mercury soap, and in the case of eczema I give a dose of morphia and wash the parts thoroughly daily and re-apply the dressing, which in my case is composed of zinc oxide, zinc sulph., liq. plumbi, liq. picis carbonis, meth. spirit, glycerine and water, but the most important of all is the prevention of further irritation of the skin by the animal

himself, by means of a properly-shaped collar and tying the legs.

The essayist mentions, at the end of his treatment for eczema, that those dogs which possess tapeworms should be treated accordingly. My preliminary treatment for most cases of skin disease is a suitable dose of worm medicine, as it is difficult for me at times to find out if a dog has worms or not, and there is sometimes a connection with worms and skin irritation by reflex action.

Cases of eczema in dogs want to be in a cold atmosphere as much as possible during treatment, but it is difficult to treat dogs at their houses where they are allowed to lie near the fire.

As far as food is concerned, I give a large piece of meat the size of one's double fist and a bone to gnaw.

I agree that follicular mange in many cases is not worth the thorough and expensive treatment necessary.

I do not know whether the essayist looks upon interdigital abscesses as a form of eczema and therefore as within the scope of his paper, but if he has time I should be glad if he could tell me the cause and successful treatment (cure and prevention)—the latter especially.

I again thank Major Chambers for his excellent paper and the great trouble he must have taken in writing it.

The PRESIDENT: There has been a very interesting opening to the discussion, and I am sure there are plenty of points to talk about. Please set the ball rolling as quickly as you can.

Professor F. T. G. HOBDAY (London): I want to say first of all that I absolutely agree with the essay. It is one of the most important subjects chosen. Because it is commonly met with we are apt to not take it as seriously as other things. As Major Chambers said, eczema is a most weird disease, and as regards the term dermatitis, I think that is what we should think very much about. It is a common impression that the dermatitis parasite is normally present. It is certainly present in a very large number of cases, but whether in every dog, that has not been properly thrashed out. The parasites are found in man. I once lived in a town where there was a river, and the rowing men, it was found, had them on their backs.

Dunlop-Martin has drawn attention to the statement that worse cases are to be found in dogs with non-pigmented skins. I think one sees it in all kinds of dogs, but it is my impression that the white dog is much more prone. That is a point that has not been prominently brought forward before. Everybody agrees that eczema is more commonly found in dogs that are fed on biscuit food. We do not prescribe sea bathing for dogs in London, but people who have taken their dogs to the sea have found them get better after a course of sea bathing. Major Wright's idea of a chunk of meat is most commonly used, but he did not say whethe he gave cow meat or horseflesh. If the latter then I disagree with him. Cow meat is certainly a very great help.

As far as treatment is concerned, I know there is nothing to beat the old-fashioned oil and sulphur. (Applause.) There is no need to go further. If a dog is dressed thoroughly and not washed until the third, tenth, eleventh, and twentieth day, the dog is absolutely cured with the old-fashioned yellow sulphur and whale oil, nasty smelling stuff though it is—you can absolutely promise that the dog will be right, but you must not wash him in between. A hundred per cent. can be cured.

As regards the treatment of follicular mange, I am sure the basis of treatment is the persistence with which it is applied, and most cases can be cured if one will only take the trouble to go on and do it one's self, or else get somebody who will be sure to do it thoroughly and persist for three or five months. It is not so much a choice of dressing as the thoroughness of application. The æther and iodine treatment is successful if you follow it up. I worked at this subject of follicular mange for two years and thought I had got something very good. We used to scrape with a paper knife, get the parasites clear and we got several cures by touching the tops with collodion. Apparently the parasite wanted air, and we decided to deprive the little beast of air, and so kill him. We have tried the ultra-violet rays, but in our hands it has not given any permanent success. We have, however, had the ordinary Burnett's fluid and we used it for all follicular mange dogs, and I have never known one sent back uncured. It is contagious to man, although not so much as sarcoptic mange—one woman had the latter all over the abdomen and another case was in an old army medical officer who had a tiny dog which he used to take to bed with him, and he got a dose.

I did know a man who got Follicular mange, but it is not easy to catch.

Professor Almond's treatment will give success if used properly. It is to take chloride of zinc, make a bath of it, squeeze all the pustules, take a sponge and swab the dog all over with it. I believe that Professor Almond did it for three or four days or a week, and then twice a week for a month, and in three weeks the thing was clear and we used to leave the dogs for three or four months if the owner would stand the expense.

With regard to eczema, I agree with what the essayist says about not washing and we do not like powders or greasy dressings. The use of ultra-violet rays is absolutely "IT." It is a specific. The lamp costs about 65 guineas, but it can be used for other purposes as well, and we consider the outlay is repaid within six months. (Applause.)

Mr. T. PARKER (Newcastle-on-Tyne): I must congratulate the essayist in introducing this subject, which is one of the most important to practitioners, because I am perfectly certain that canine practice has a great future. Dog shows are on the increase and during the last 40 years the number of people who keep dogs has increased very much and clients now come from every conceivable grade of society. I am not a practitioner at the moment, but have been breeding and exhibiting different breeds for 37 years. I commenced with Deerhounds, then kept Manchester terriers, English setters, White English terriers, rough and smooth Collies.

With regard to eczema, so far as predisposition is concerned my experience is that no particular breed of dog is more liable to eczema than any other. I have not found families of the same breed to show predisposition, but rather an individual member of a family or litter. So far as feeding is concerned I have noticed that when an animal is kept on ordinary meals and you do not introduce meat from time to time, the animal goes off in condition.

The essayist, in dealing with the treatment of eczema, pays too little attention, I think, to internal treatment. He deals very extensively with external treatment, but I am convinced that the treatment should be directed more particularly against the cause, which is internal and not external.

Treatment: I had one animal which was exhibited frequently. It was a big winner—a smooth Collie and absolutely black in colour. On one occasion that animal was dressed the night before a show and was left in perfect condition. The next morning early, I intended going off to the show, but before doing so went down to the kennels to get the dog. When I brought him out I was surprised to find a wet, hairless patch about the size of a five-shilling piece on the back near the base of the tail. Steam was rising from the area, which was so irritable that if one put one's finger on the hair within three or four inches of it the dog quickly jumped forward. The treatment adopted was this: I took a good dose of Epsom salts and dissolved it in a four-ounce bottle containing water, then took the animal into a corner and administered the contents. Within 48 hours the hairless lesion was perfectly dry, without irritation of any description, and was smooth and glistening. A fortnight later an ointment containing a little coco-nut oil was used with the idea of promoting the growth of hair as rapidly as possible. However, it was at least two months before the animal was again in show condition. After a period of six or nine months, exactly the same thing occurred and the same treatment was repeated with precisely the same result.

Mange. I agree with Professor Hobday as to treatment. Long before I entered the profession I had experience with ordinary cases of mange, and the treatment adopted was the old-fashioned method as previously referred to. If the life history of the parasite in cases of ordinary mange be borne in mind and you deal with it accordingly, the treatment is absolutely as easy as A.B.C.

With regard to follicular mange, the outlook concerning treatment is not, in my experience, so hopeful. For example, I remember having one animal—a Bulldog—affected and followed out treatment religiously, month after month, until the animal appeared quite free. Some months later the animal would be returned and the whole process was repeated, but without complete success. If I had a case of follicular mange in my own kennels I would deal with it in precisely the same way as the Ministry of Agriculture would deal with a case of foot and mouth disease, *i.e.*, I would destroy the animal. (Laughter and applause.)

Mr. F. L. Gooch (Stamford Baron): As regards eczema being found in non-pigmented dogs, I have bred Labradors for 20 years and found that in sporting dogs you get eczema in pigmented as well as non-pigmented breeds. The only treatment I adopt is very little local treatment and put them on a course of internal treatment of arsenic.

Mr. H. S. Elphick (Newcastle-on-Tyne): My experience of eczema leads me to believe that the most affected dog is the pigmented one, particularly the Airedale. It is essential that whatever the skin case be that is brought to you, scrapings be taken for microscopic examination, not only for proper diagnosis, but for your own protection, and that for this reason. I had occasion to examine a dog, and after examining the scrapings microscopically I found no parasite. Some time later I had a letter from my client threatening me with proceedings, because she and her neice who slept with her had both developed this trouble from the dog. I invited the lady to an interview and, despite her letter she readily allowed me to take some scrapings from her chest. I found the trouble had nothing to do with the dog at all. Ever since then I have examined every case microscopically.

I am a great believer in autogenous vaccination. I have had great success with it. Good meat is undoubtedly a great help. In bad cases I have had remarkable success with applications of a watery solution of lini. sapon c myrrh et benzoin, and in ear cases you cannot better resinol ointment. In some eczema cases I have noticed a stoppage of the anal glands. With regard to the æther and iodine treatment I have tried it and find it makes them very sore.

As to Professor Hobday's statement about the hounds in cases of follicular mange, I do not know if you have noticed that you can keep six or eight dogs together, one suffering from follicular mange, and another may get it, or may not. Introduce a follicular mange case into the company of other dogs. Some may be infected and others not. There must be something about particular dogs which promotes the growth of the parasite. I have not tried the ultra-violet rays for eczema.

Mr. W. H. Brooke (Handsworth): I, too, must thank Major Chambers for introducing this subject, which is one of vital importance professionally. I do not think we know sufficient pathologically of eczema as it exists in the dog. I should like to ask Major Chambers' opinion concerning the skin lesion. What is it actually? From a physiological aspect what is sebaceous matter? Is it partially excretory? and is cutaneous excretion in any way responsible for the eruption?

With regard to its cause, I have no doubt that it is largely hereditary and its origin chiefly dietetic. Until we are absolutely clear as to its pathology, treatment must be experimental rather than rational. For the last 40 years I have been frequently told by clients that they believed milk brought on worms, and meat distemper. I am tired of listening to such nonsense, but it comes up perennially. There is no doubt whatever that much skin disease in the dog is caused by wrong feeding during the first six months of his life. The development is so rapid during this important period that he should have the very best of food, but he seldom gets it, the two fundamental factors, meat and milk being frequently barred.

As to eczema in older dogs, I was very much struck in reading Mr. David Walsh's book on Human Skin Disease, (lent by a medical friend) by the allusion to the frequency of heart disease as a concomitant. He states that valvular or myocardial disease of the heart may be associated with eczema, lichen, rosacea, seborrhœa, psoriasis and early alopecia, and if you will examine this organ in cases of eczema in older dogs you will frequently find accompanying valvular disease.

I would like to ask Major Chambers about the treatment of worms in eczema. I agree, of course, that the parasites should be got rid of, but at certain stages of the disease,

are not anthelmintics likely to be provocative to the eczematous process? The liqui plumbi co. lotion should be used in the early moist stages, but following this and even in chronic lesions I would like to tell our members of an ointment mentioned in Martindale and Westcott which I have found extremely useful. It is a combination of ammoniated mercury, lead acetate, zinc oxide and ointment of nitrate of mercury with an equal quantity of lanoline and lard as a base. It frequently acts like a charm.

Nobody has yet mentioned the use of calomel as a laxative and lymphatic stimulant—it is extremely useful in eczema. (Applause.)

Mr. R. H. Smythe (Camborne): I should like to add a few words with reference to the prevalence of *Demodex folliculorum* in the apparently healthy dog. During the past two years I have carried out some research work on this subject and I have in this period examined scrapings from a large number of dogs, which exhibited no visible skin lesions, probably 300 in all. I have found that the demodex is present in a large proportion and although I have made scrapings from various parts of the body, such as the pads of the feet and between the toes, I have found that the parasite can very frequently be detected in one place—beneath the chin. If you squeeze out the large hair follicles in that part you will very frequently find them. This fact helps to explain why whole litters of puppies are frequently affected whilst the dam apparently shows no lesions. If you consider that the bitch licks her newly-born puppies, at the same time rubbing them with her infected chin, whilst their skins are tender and moist, you will realise the possibilities. The essayist states that in the great majority of cases infection must take place by actual contact. In my experience the majority of cases occur in young dogs which have recently recovered from some febrile complaint, such as distemper, and if you consider that their skins were probably infected by a bitch with a follicular chin, it will seem as if these puppies may have carried the parasite in a dormant state until some bacterial infection has given it a chance to make headway.

I disagree with the essayist when he states that lesions of dermatitis around the eyes can safely be diagnosed as eczema. I find that the puppy with rings around the eyes is the one which later develops follicular mange. The disease spreads from the eyes to the head and muzzle, and gradually over the body.

I should like to ask the essayist if he has met with a disease in black Cockers much resembling follicular mange, but differing in that there are no parasites. I have at present fourteen cases in one kennel and the disease is prevalent in many other Spaniel kennels in my part of the country. I have made cultures from the pustules and my work has been checked by several laboratories and I have found in each case that staphylococci were present and, in addition, there was a Gram-negative bacillus. Now, it appears that when streptococci alone are present, parasites abound and the condition is only slightly contagious, but when this particular Gram-negative bacillus is there, parasites are absent and the disease is very contagious. I daresay some of you will say that this is acne or some similar disease, but I will quote you an instance of their relationship. It seems to me that the presence or absence of demodex depends upon the soil, and by the soil I mean the bacterial flora present in the pustule.

With reference to the black Cockers, I kept one of these non-parasitic cases for a few days in contact with a bitch which, although apparently healthy, harboured parasites beneath the chin, as shown by microscopical examination. This bitch in a few weeks showed signs of follicular mange which extended over the head, chest, belly and back, and contained numerous parasites. I mated her to a dog and her puppies are now four months old, and up to now not one has shown any sign of the disease.

With regard to vaccine treatment, I made autogenous vaccines some years ago and treated a number of cases in the West country successfully. Our President very kindly supplied me with one or two dogs suffering from the real old-fashioned London follicular mange, but I found that, in these, my vaccines were utterly useless.

A Member: The feeding in the great majority of cases is the trouble, in that the bowels of a dog normally should be in a firm condition, and in the majority of cases if the anal glands are emptied it is much easier to treat the dog.

Professor R. T. Leiper (London School of Hygiene and Tropical Medicine): In our recent work at the Institute of Agricultural Parasitology we have been led to think that rabbits and cats taken from stock, for experimental infection with Trichinosis, appear to be rendered more susceptible to mange than their fellows. This empirical observation supports the view already expressed by other speakers that the presence of parasitic worms in an animal may lead to an exacerbation of mange.

Mr. W. Jackson Young (Newcastle): I am no longer engaged in general practice, but take a great interest in all things veterinary. Doubtless want of space has prevented Major Chambers from mentioning Derris, many preparations of which are now on the market. I advise you to buy Derris. It has been thoroughly investigated in Great Britain, but unfortunately the veterinary press has not published very much information about this valuable substance. Derris is a plant which comes from Africa. It has been analysed in this country and found to contain two very powerful principles—(1) a colourless crystalline body: Tubatoxin ($C_{18}H_{18}O_5$); those who have dabbled in pathological chemistry will know the significance of this formula. (2) A resin named Derride. It has been found by British observers that Derris is the most powerful insecticide known. The drug has a double action. The Tubatoxin kills the parasite by a direct hit and any parasites that escape such are killed by the Derride, which can kill in the vapour phase at some distance from the parasite.

Derris is best used in aqueous solution containing soap. I have used it with saponin and also with liquid extract of quillaia bark. Resinol was mentioned in the discussion. I have found birch tar oil ointment equally efficient. Principal Hobday mentioned whale oil, but I think he must have meant seal oil, for I find it very difficult to obtain whale oil.

I thank Major Chambers for preparing his paper. The subject is of very great importance. What surprises me in the discussion that has taken place is that nobody has suggested that mange in dogs should be a scheduled

disease. Many veterinary surgeons whom I meet frequently make that suggestion. (Hear, hear and applause.)

The PRESIDENT: It was my intention not to enter into the discussion from the Chair, but I feel that on the present occasion I might be expected to speak on this subject. The discussion itself has given sufficient indication that the subject chosen was well chosen and justified its selection on the part of the Provisional Committee. Some doubt has been expressed upon the proper nomenclature to be used in these skin diseases and I think the term dermatitis is a correct one as a provisional diagnosis pending differentiation. I commend it to you in the first instance, and if there is any doubt about the diagnosis of a case the term will be perfectly right and moreover meets the requirements of the client when he or she wants to know what disease a dog is suffering from. In the meantime, whether it be eczema, mange or psoriasis, they are all forms of dermatitis.

With regard to the origin of eczema, I am not in agreement with those who maintain that it is not primarily a vesicular disease. One must remember that in nine cases out of ten some treatment has been applied before we are consulted and the true picture is masked. One way in which I have found very great assistance in the diagnosis of sarcoptic mange is through the owner or attendant, and I have no hesitation in saying that in nearly all cases I base my diagnosis first of all prior to microscopic examination on the nature and distribution of the lesions and then from what I can learn from the owner or the attendant. If you will press the question, " Have you had any irritation on your arm ? " people will say, " Oh yes ; I have got some now." You will be nearly always safe in saying that in almost all cases they have contracted sarcoptic acariasis from the dog. The clothing may have become involved and even if the dog has been away for some time they may get lesions from the clothing. I have had a number of cases—human cases—which have been brought to me by Harley Street skin specialists to assist in giving a differential diagnosis.

As to white or pigmented skins being most affected with eczema in dogs, my view is that there is no difference whatever, but in white-skinned animals the lesions are more easily seen, that is all. (Applause.)

With regard to the association of impaction of the anal glands and skin irritation. In the majority of cases of so-called eczema of the croup you will find that the anal glands are involved and when they are pressed out and cleaned the local reflex irritation is overcome.

In my view the *Demodex folliculorum* is responsible in the first instance for follicular mange and micrococci are secondary. Nothing has been said as to the method of infection of *Demodex folliculorum*. I believe, but I speak with great reservation, that it is not due to external infection at all, but that the parasite gains its seat in the skin by much more intricate channels, by migration through the tissues. I cannot conceive the sudden simultaneous appearance of multiple lesions all over the body as being due to external infection and spread by a parasite of such low mobility. It is even possible that there may be an intermediary bearer. Internal medication is essential in treatment. One of the things I have found to be of great service is a hypodermic injection of collargol.

The length of time for the development of the sarcoptic parasite has not been mentioned. An animal may get an odd parasite which commences burrowing and takes ten days over it; for the parasite to finish and lay its eggs it means from two to three weeks will have passed. Before the next brood have appeared another two or three weeks will have passed, and as you may have to wait for the third generation it will mean a lapse of two or three months before the thing has developed. This may be of great importance from a medico-legal aspect.

Washing has been condemned as a cause of eczema. I do not believe it. Cleanliness is next to godliness, and there can be no harm in it (laughter), provided that a non-irritant soap is used and the skin is well rinsed.

A complete change of diet I always recommend. In the majority of cases the disease is a form of proteinic poisoning. It may be either animal protein or vegetable protein. If the animal has had a solely vegetable diet, stop it and give him meat. If the diet has been solely a flesh one, change it again.

I was sorry to hear Major Wright say that judges at shows transmitted disease. I am afraid he did not realise that this involves the veterinary surgeons who must have let the infected dogs in. (Laughter.)

Mr. Jackson Young has mentioned Derris. I have found that it is practically valueless for acariasis. It is therefore of little value for any form of mange. It is certainly one of the best insecticides you can possibly get. Mr. Jackson Young failed to draw a distinction between insects and acari. In using Derris it must not be used in conjunction with an alkali. Any soap containing alkali damages the insecticide property. (Applause.)

### THE REPLY.

Major FRANK CHAMBERS (Wolverhampton): I have to thank you in in your opening and discussion for letting me down so lightly. I expected to be shot at quite a lot, but apparently the only thing I have done is to have created a controversy on the question of the pigmented and non-pigmented dog. It may be, as Professor Wooldridge says, that the non-pigmented dog is more easily seen and noticed. I might have amplified the remark I made by saying that the disease is more difficult to cure in the non-pigmented animal.

I was very pleased to hear several speakers state that affection of the anal glands was the cause of these eczematous conditions in the region of the croup I must confess I had never thought of that before. My journey to Torquay and the trouble of preparing this paper has been amply repaid if I have only learned that.

One of the most important things in all skin troubles is diagnosis, and it is worth any man's time to spend a few minutes in taking a scraping. Sometimes it may be difficult. It is not necessary to boil every scraping for follicular mange.

With regard to the finding of the sarcopts, my experience is that it is not necessary to scrape deeply. It you will get under the crusts you will find it. You will not find the whole family because the female burrows, but you will find the male and the eggs.

I do not think the veterinary surgeon should touch the dog at all at shows.

I would ask Major Wright when he says he would like a cold atmosphere, does he mean for eczema or mange ?

Major WRIGHT: Eczema.

Major CHAMBERS: Yes, because you do want a warm room for mange.

Gentlemen, it is as well for us to look facts in the face, if we have not done so already. My own district was once very heavily horsed. That is not so now by any means. Estates have been sold and cut up. Wire is everywhere, and the number of hunters kept is steadily decreasing. When an industrial horse dies or is sold it is seldom replaced, so we must look elsewhere for our bread and butter, and there is no doubt that a great many more people are bringing their dogs to us now than before.

Regarding the use of oil, I do not use whale oil or seal oil. I use a form of liquid paraffin. It is a non-drying oil, and that is what you want. It has many qualities in its favour, for it is cheap, it is a non-irritant, and it remains moist for days.

As to follicular mange and its cure, Professor Hobday says that all cases are curable. Well, they may be, but I must confess that I have had several cases that I could not cure. It depends upon the degree, upon the variety, and upon the expense. We are not philanthropists. We are out to earn our livings. (Hear, hear.) It is no good keeping a dog for, say, five months, and then be told by the owner, "I am sorry, but I cannot pay you." If you tell a client that a dog can be cured, you should be careful to say that the treatment will probably take such and such a time, and ask your client if he is prepared to pay for it. If he says "Yes," because the dog might be a valuable one, or for reasons of sentiment and he wants to save it if possible, then take the dog in.

I have known a Dalmatian bitch that has had three litters of pups. The bitch herself is quite healthy, but every litter of pups she has had had follicular mange. All of them have it. In a couple of months they will have the pustule type, and then they will all be destroyed. (Laughter.) I might add that the owner treats the puppies with his own remedies, etc.

I have tried ultra-violet rays, but without result.

I agree with all that has been said about internal treatment. It is most necessary. A good clear out is, as Mr. Parker said, extremely effective.

Mr. Brooke asked me about the pathological aspect. The essential part of the process is increased diapedesis of the white corpuscles with escape of liquid exudate from capillaries and small vessels and accumulations of these bodies causing obstruction of the lymphatics. The higher degree of inflammation is marked by stasis of the capillaries, veins and small arteries; if this condition persists it induces necrosis. This latter condition is sometimes seen in eczema of the scrotum when areas of skin die, and, like a "sitfast" on a horse's back, have to be removed before stasis disappears.

I was interested to hear Mr. Smythe talk about the black Cocker spaniels, because I had a similar experience. I had two that I kept for five months. They had it on the nose and on the dorsal region, and they were fifteen months old. Both dogs cleared up after treatment by the mercury vapour lamp. I was so pleased that I decided

*(Continued at foot of next column.)*

## No. 3.—Lightning and Electric Shock in Animals.*

Major R. G. ANDERSON, O.B.E., Kirkcaldy, presided over this session, which was the second held on the morning of Wednesday, 14th September.

Mr. S. J. MOTTON, the essayist, exhibited a number of slides, being copies of maps worked out by Dr. Mahomed, of Eastbourne, dealing with the district incidence of lightning deaths among people in this country, and also a number of slides showing groups of sheep and cattle that had been struck.

Mr. H. CAULTON REEKS (Spalding), who opened the discussion, said:—

When, some months ago, I was approached by the Provisional Committee and asked to open the discussion on Lightning and Electric Shock in Animals, I fully recognised the honour done me. At the same time, I was terribly conscious that I could lay claim to possessing no special or extraordinary knowledge of the subject. Indeed, I wondered in what way the scattered knowledge that we *do* possess could be brought together and welded into a satisfactory paper. This growing feeling of wonder was dispelled when I received Captain Motton's typescript, for I was able to see at once that we had got before us a capital paper on the subject—a paper quite full of material and yet a model of conciseness.

Speaking for myself, and as the one entrusted with the opening of the discussion, it seemed to me that the paper had but one fault, if fault it could be called, and the fault was that within its short compass of words it had embraced so much that it appeared to have left very little on which to remark. However, that, I fancy, may prove to be wrong; for there is one point to which I would like to refer myself, and I have no doubt others will occur to you.

The point to which I wish to refer is the incidence of lightning deaths in certain districts. Concerning this, Captain Motton remarks that it will be interesting to know if deaths among animals have the same district or soil incidence as in man. Of my own experience I am able to say I know of one instance where such would appear to have been the case, the instance that I have in my

*(Continued from previous column.)*

to send them back. The morning they were going back they were just as bad as ever; lumps all over the back of one, and full of pus and eyes running. He was in an awful mess. The other dog got it too, and eventually both had to be destroyed.

There is no doubt that cleanliness has a lot to do with the prevention of sarcoptic mange. You seldom find a racehorse with sarcoptic mange. Similarly, take horses' feet. How often do you find canker in a hunter? Very seldom, and why? Because his feet are washed out each time he comes in.

Referring to the existence of the demodex in the normal skin, it is quite probable that the parasites do exist in the skin, and anything that reduces the animal's vitality allows the parasites to become active and pathogenic again. This is one of the mysteries of the disease. Gentlemen, thank you all very much. (Applause.)

*Paper presented by S. J. Motton, F.R.C.V.S., Penzance.

mind being one in which three deaths from lightning stroke have occurred on three successive occasions in the same field or its very near locality.

Each of these deaths was a death in which there was no doubt as to the cause. In each case I made the *post-mortem* examination myself, and in each case there was an irregular line of superficial singeing of the hair such as is frequently caused by lightning stroke, and which, once seen, cannot be mistaken. The second death I put down as coincidence. On the occasion of the third it certainly struck me that that particular district or area was associated with the cause, but just in what way I could not explain.

Moreover, this tentative opinion of mine that lightning deaths in animals do have a district or soil incidence afterwards received confirmation from one of the fire insurance offices. For the purpose of bringing it into this discussion I wrote to the assessor of one of our large companies asking him to confirm what some years before he had told me, namely, that in the office was kept a map on which certain areas were flagged as showing a more than ordinary liability to deaths from lightning. His reply was in the affirmative, and as follows: "We *do* keep a map in the office on which certain areas are indicated as being, from our experience, generally more liable to lightning damage, probably due to physical reasons, such as contour of the country. For instance, the Dovedale district of Derby, about 15 miles square, comes under that category."

But here his reply did not end, for, "coming under the same category," he added, "are other small portions of our district of the nine Midland counties where we have found the moral hazard bad."

This again was only in confirmation of a fact of which I was already aware, namely, that certain portions of this map were flagged as marking areas from which had been received a far greater number of claims for damage to stock by lightning than ordinarily should have been expected, and that when further deaths had occurred and further claims for damage had been received from these particular districts, then investigation of these claims had been tightened up and made more searching, as a result of which quite a large proportion of these claims had been discovered to be fraudulent.

Of this, I may repeat, I was aware several years ago, but (again for the purposes of this discussion) I recently put to the Insurance Office this direct question: "Have you any *data* that will enable you to say how many claims per annum, after due investigation, have been found to be definitely bogus or deliberately concocted?" The answer to that again was "Yes, 20 per cent."

And this brings me, gentlemen, to a consideration of one aspect of these deaths from lightning stroke of which mention has been altogether omitted from Captain Motton's paper, namely, the medico-legal aspect. However, I intend to refer to it only very briefly, for I have the feeling that it would quite easily make a paper in itself. Very probably it is for that reason Captain Motton has left it alone.

I see no reason, however, failing other points which may occur to us to discuss, that there should not centre round it some measure of our discussion to-day, for necessarily there will be associated with it a consideration of the symptoms and the lesions which form a part of and are already given in this paper.

Now, it so happens that I have had some considerable experience in this matter of investigating and reporting on claims made by the public for damages to, or death of stock from, lightning stroke, and in 1917, in the now defunct *Veterinary News*, I published a series of three short articles entitled "Bogus Lightning Claims," in which I related a few of the more unpleasant circumstances that I had come up against. Probably it is for that sin I stand committed to the opening of this discussion to-day. Be that as it may, I feel sure that the medico-legal aspect will bear discussion, if not to-day, then at some future date.

For many years I have held the opinion that, in the very large majority of instances, animals dead from lightning stroke would surely supply very material evidence in support of it, and that, failing such material evidence, any case should certainly be looked upon as extremely doubtful, if not to be classed straightaway as negative. Many times I have been told by veterinary surgeons opposed to me that in this I was wrong. I was very pleased, therefore, to find in Captain Motton's paper confirmation of the view I had held for so long, but which was so often disputed. If the statement, according to Tapken (on page 77 of the Programme of the Congress) is correct, that ninety per cent. of affected animals show burns, then we are justified in any investigation concerning a dead animal in saying that without such evidence of burning the case is certainly on the doubtful side, and that our attention should then be strictly directed to a search for some other cause of death, when very nearly always, if our search is sufficiently diligent, something pretty obvious comes to light. Failure to demonstrate any other cause of death might perhaps justify us in attributing the death to lightning stroke, but this only when strict enquiry had established the fact that there certainly had been an overhead storm, after which the animal, previously in good health, had been found dead.

But the fact remains that in the *bona fide* case the burns are nearly always there, and in my experience most commonly take the form of an irregular line, commencing at the tip of one of the ears, and to be traced running down the neck, often in the jugular furrow, to one of the fore limbs, and so to earth, marked in its course merely by a superficial singeing of the hairs, or there may be found a similar line commencing in the region of the croup, and again gaining earth by way of one of the limbs.

The markings I have described are, I should say, to be found in the majority of genuine cases. But I have one case in my mind, which came under my notice so recently as this last summer, in which there were marks of burning not so easily to be noticed, and which I very nearly missed altogether. These were about the skin of the forehead and accompanied by singeing of the forelock, but could not be found extending elsewhere, even after careful search.

But in such cases as this, and in those genuine cases of death from lightning stroke in which there are no marks of burning to be discovered at all, there is quite frequently to be found a piece of evidence amounting to proof that the animal dropped suddenly dead while in the act of grazing. This is furnished by the finding, tightly

clenched between the incisor teeth, of the last tuft of grass the animal was cropping. Death so sudden as that, even without the evidence of burns, might, together with the history of a storm, be reasonably attributed to lightning stroke.

So far we have considered the genuine case of lightning stroke with the animal found dead, and so far it has been fairly plain sailing. It is when claims are put in for animals still alive that the difficulties of the investigator are enormously increased. It is so easy for the claimant to point to certain conditions, such as the one of "jinked back" in the horse, for instance, with a resulting paraplegia of the hind limbs, and to say that such a condition may have been caused by lightning stroke: while it is so terribly difficult for the investigator to disprove. The claimant will quite cheerfully ignore the other ninety and nine likely causes of the condition and cling to the remote possibility of lightning stroke so affecting an animal without striking him dead. In this connection I believe I am right in saying that paralytic conditions of the limbs caused by lightning stroke either tend rapidly to disappear, in which case no claim or only a small one can exist, or that they are at the same time accompanied by other changes such as a dazed and staggering condition, coma, blindness and the like, as mentioned by Captain Motton, and which render the cause unmistakable.

But in arriving at a true estimate of any particular case, and in submitting to the office employing him a fair report of the result of his enquiries without causing annoyance, the investigator encounters his worst difficulty when he finds that the claim, in addition to being fraudulent, is at the same time supported by the claimant's veterinary surgeon. One would not care to suggest that any one of us present here to-day would stoop to give the slightest support to a claim of such a character, but we cannot overlook the fact that there are those who will. I have already partly shown this by giving to you the experience of one of the fire offices that 20 per cent. of their claims have been shown to be bogus or fraudulent. Arguing from that, one would judge that in some, at any rate, of these cases an attempt would be made by the claimant to obtain the services of a veterinary surgeon in order to establish his claim, and that occasionally he would be able to drop across one of those black sheep to be found in every flock who would oblige, and who would be willing to prostitute his knowledge and his qualifications to a bad end.

I may say that in the course of many of my investigations of these troublesome cases I have had unfortunate and trying experiences of such situations. But in order to be quite sure of my ground before giving it mention here, I again obtained confirmation from one of the fire insurance offices by means of direct question and answer. My question to the office was:—

"Can you point to actual cases, without, of course, mentioning names, where bogus claims have been made, supported by a veterinary certificate, under circumstances in which it was plain to see the veterinary surgeon knew quite well the claim to be false?"

One of the offices to which this question was put gave the very decided answer:—

"*We can, and we enclose copies of correspondence supporting this.*"

A second office was far more guarded, and, judging from some of my own unfortunate experiences, far more charitable, their reply being as follows:—

"Cannot recall any deliberate case. More usually have come to the conclusion that the Insured's 'Vet.' has been a man inexperienced so far as lightning effects are concerned."

Now the matter I have introduced here as calling for discussion would, on the face of it, appear unsavoury. Nevertheless, it is one I feel ought to be dealt with and if the discussion here to-day serves to clear the air but just a little, then some measure of good will have resulted.

Regarding the first point I have raised in this connection, I feel confident that all here to-day will agree with me that certainly the matter of a veterinary surgeon, with the honour of the profession in his hands, knowingly bolstering up a claim which is patently false, is one that in some way should be dealt with. Not in any way vindictively or in malice, but simply with a view to protecting the profession from the stigma thus cast upon it. In what way it could be dealt with it would be difficult to say, and for that reason I think it calls for discussion. In an Editorial in the *Veterinary News*, I believe it was by the late E. Wallis Hoare, we find the words "We can quite appreciate the difficulties in connection with bringing such cases before the Registration Committee of the R.C.V.S. Probably a local veterinary association would prove to be a more useful tribunal for instances of the kind." That was written in 1917, and to it I would add to-day that seeing its relatively larger membership since that date and its greatly increased methods of organisation, the "National," perhaps following on a report from one of its divisional branches, should be the body to which such cases should be referred.

Among the difficulties alluded to by Wallis Hoare as standing in the way of bringing these cases before any court of enquiry, the main difficulty is one to which I have already drawn attention, namely, the reluctance that any of us would feel, no matter how glaring the case, in being the first to lay evidence. Personally I do not feel I could be one to do it. That, however, does not say it should not be done: and concerning this question discussion again may clear the air.

With regard to the second point which a consideration of this matter has raised. Should a veterinary surgeon be allowed to plead ignorance concerning the effects of lightning? Personally I do not think he should, although I am quite prepared to admit that about this there may be differences of opinion. This much, however, is certain—when once Captain Motton's paper is in circulation in our periodicals, then no veterinary surgeon will quite so readily find himself able to take shelter in an excuse of the sort, for it appears to me that in this paper, pithy and concise, Motton has given us the whole thing in a nutshell.

I would have liked to have dealt very much more fully with this subject, but I have perhaps said quite enough to set the ball rolling. Moreoever, it is only fair to say, so far as Captain Motton's paper is concerned, that this subject—the medico-legal aspect—is only a side issue,

and that there must be other and quite as important matters in the paper which will appeal to you for discussion. I cannot conclude, however, without thanking Captain Motton personally for what has been to me a most interesting and informative paper, and I hope that it will evoke the discussion which I am sure it deserves. (Applause.)

Mr. H. P. STANDLEY (Norwich): I must first congratulate Mr. Motton on his achievement in writing so excellent a paper on the effects of lightning stroke and electric shock in animals, which we must all agree is a very difficult subject on which to write. At the present time so little is definitely known in connection with it, that criticism, as far as I am concerned, will not be of a very destructive nature, as I must say that I am almost in entire agreement with nearly everything Mr. Motton has said.

From a veterinary surgeon's point of view lightning stroke is a very important subject, and I may here say that, with regard to electric shock in animals, outside lightning stroke I have had no experience. Practically every case of lightning in domestic animals involves a claim on an insurance company, and consequential investigation and report from us is demanded by the Company concerned, and the difficulty in diagnosing in a good many cases is very great. I certainly disagree with Tapken's statement that 90 per cent. of the cases show signs of burning. If we put down 10 per cent. as showing definite lightning marks and 90 per cent. not, in my experience this would be nearer the mark.

There is no doubt that electric current sufficient to cause death does pass through an animal's body and leave no macroscopic appearances of it, and I think Mr. Motton's explanation that lightning can strike the ground and be responsible for an animal's death a mile off may tend to explain the reason why we do not get any markings in a good many cases, but I should like to ask Mr. Motton how it is proved that this does occur. I find that animals are more often struck in the open than when under trees, etc., and, as far as the Eastern Counties are concerned, I have not noticed that locality plays any part in the frequency of cases, although I think we get more cases on the marsh lands than elsewhere, but I should like to ask Mr. Motton if he can explain why we get more animals struck in some storms, whilst in others more buildings are struck.

Mr. Motton says large groups of animals are more often affected; this I have not found to be the case, except when touching wire fences, etc.

When *post-mortem* findings are absent one can only arrive at the diagnosis of death having been due to lightning by the absence of other attributable causes, and it is always important, in my opinion, not to have the carcase moved until one has been able to make an investigation of surrounding objects. In some cases I find it is a good thing to pry into the character of the claimant. Many suspected cases reported prove not to be due to lightning stroke at all, as in my experience tetanus, laminitis, and a good many other things have been put down to this cause, and I consider, especially in cases of bovines, a microscopical examination of the blood should be made to see if anthrax is present or not.

Some cases in which the animals are not killed outright are just as difficult to diagnose as those in which death has taken place, and as far as the prospect of recovery is concerned, the prognosis is practically hopeless when paralysis is well marked. As regards treatment, strychnine has been recommended, starting with grain doses, and increasing this by grain doses until tetanic spasms of the muscles occur, when the drug is discontinued. I have tried this, but never found it of any use.

As regards *post-mortem* appearances, I certainly think decomposition sets in very rapidly, but this may be due to the fact that cases usually occur in the summer months and also as the result of ordinary atmospheric effects of a storm on meat. I find that a tarry, non-coagulated condition of the blood is often present, but as death is very likely to be due to the electric current acting on the respiratory centres, this may be the cause.

*Rigor mortis* I have found well marked in the majority of cases. As regards definite lightning markings in the form of burns, I have never been able to see these in the underlying tissues after removing the skin. They are always superficial, whereas markings which have been pointed out to me as alleged lightning marks are, in my opinion, markings caused by injury. On removing the skin one can always find the usual signs of bruising of the tissues; therefore, it seems a good plan, in cases of doubt, to have the animal skinned.

I have never seen wounds, lacerations, or fractures caused by direct lightning stroke. Many of these latter do occur I know, but in my experience are due to the animal becoming frightened, and rushing about and coming into contact with different objects, or falling into ditches, etc., and sustaining the injury in this manner, and are in no way attributable to direct lightning stroke.

Mr. F. L. GOOCH (Stamford Baron): Page 74 of the paper deals with the geology of the district. I think there is a lot to be said about that. In my district we have a tremendous lot of iron subsoil and right along that length of line we have numerous cases of lightning stroke independent of water or trees.

On page 75 Motton says: "When the flash falls, whatever assists the contact of the electricity above with that below will receive some of the discharge, and human beings or animals which have helped to complete the circuit will be affected. It is believed that large groups of animals exercise a strong attractive influence to the electric fluid. Any tree may be struck, the order of their frequency being given as poplar, oak, elm, conifer, walnut, ash and beech. The richer in starches, and the poorer in oils, the more susceptible are the trees. The essayist places the poplar first. I think that the illustrations which he has given us on the screen disprove that. I know a little about the kind of trees, and I did not see a single poplar in the slides; they were nearly all beech or oak. In my opinion the most attractive tree is the oak. (Hear, hear.) I believe that corresponds with the knowledge we have that in oak we have a certain amount of iron. (Hear, hear.) Motton has not mentioned one tree at all in his paper, and that is the willow. I think the reason why animals are struck is because they take shelter under attractive things like trees.

Fencing has been alluded to. I was called in to assess a case about five years ago. Twenty-six sheep were found along a barbed wire fence, and under each of the posts were two dead sheep, but under the tree were twelve.

What struck me most was that the lightning *must* have gone up the tree instead of down, because some of the wool of the sheep that were struck was fixed right up the bark of the tree to the very top of the tree.

I do not agree that in 90 per cent. of the cases you cannot find a direct mark upon the carcases.

In a great many cases the injury due to lightning did not result in death, and in these cases it has been difficult to assess, but I have always found insurance companies willing to pay if there has been the slightest doubt. Of course it is to their interest to pay. In giving an opinion I think we have to depend a tremendous lot upon circumstantial evidence. I have had cases this summer where there have been no marks at all, but, on looking, I have found trees or wire fencing that had been knocked down. Decomposition is not always present, and I think that is in cases in which there is no direct contact with the electric current. Of course there is no doubt whatever that there are many bogus claims, and it is very difficult sometimes to satisfy uninsured and insured.

Mr. F. C. MINETT (Weybridge): I wish to introduce into the discussion that part of the subject which is referred to in Mr. Motton's paper under the heading of Industrial Electricity. I do not think it is necessary to lay stress on the importance of this subject. The importance may be judged by reading in the daily press of cases where people have been electrocuted by low tension currents, such as those of the ordinary electric lighting system.

About four years ago in an army camp in Egypt I met with an instance in which five horses were electrocuted by a low tension lighting current. An account of this was published in *The Veterinary Record* for September, 1923. The accident occurred owing to a breakage in one of the overhead wires of the lighting installation, the broken end hanging down and making contact with the zinc sheeting of the manger. Shortly after the current was switched on one animal was seen to be dashing about its stall and a soldier who went to investigate received a shock. The animal died within a few minutes and it was then found that four others had been killed apparently instantaneously in their stalls. I saw the carcases a few hours later and was impressed by the similarity of attitude of the four animals which were killed suddenly. Each was lying on its right side with the head bent back over the left shoulder, thus bringing the right side of the neck in contact with the manger. Death had apparently occurred without a struggle. In all cases there was evidence of muscular relaxation; the pupils of the eyes were widely dilated, the anal sphincters were relaxed and fæces had been passed at the moment of death. In the case of the animal in which death was delayed there was a considerable amount of frothy, blood-stained discharge from both nostrils, but in the four other animals this was absent. The clinical evidence supports the opinion of Lewis Green, who, in an article published in the *Journal of Comparative Pathology* in 1901, considered that the presence of nasal discharge might be taken as an index of whether death was immediate or not.

*Post-mortem* examination made twelve hours later showed subcutaneous congestion, incomplete collapse of the lungs and hæmorrhage into the lung tissue. The mucous membrane of the trachea was black with congestion and hæmorrhage, and the blood was dark and uncoagulated. There was no evidence whatever of burning of the skin. The *post-mortem* findings were similar to those described by Nunn, Hunting and others at a meeting of the Central Veterinary Society in 1905.

The lethal current in these cases was an alternating one of 210 volts. Voltages lower than this have been known to kill, *e.g.*, Kitt records that dogs were killed by an alternating current of 160 volts, while Hobday and Stainton record that a current of 100 volts was not fatal. As Mr. Motton says, alternating currents are more deadly than continuous ones and authorities are quoted in support of this.

The important point, however, is the amount of electricity which passes through the body. This is determined among other things by the degree of contact and in the cases discussed here there was opportunity for extensive surface contact. A large area of the skin of the neck was touching the manger and as the animals were lying down there was a considerable area of body surface in contact with the ground. No doubt also the animals' skins were very moist owing to the dampness of the climate at this season.

With regard to the prevention of such accidents, I would suggest that, in view of the extensive modern use of electricity, veterinary surgeons, if consulted on matters relating to building construction, should advise as to the possible dangers of electric installations. (Applause.)

Mr. H. TUDOR HUGHES (Oswestry): With regard to rigor mortis, the question is: how long an interval elapses before it sets in, and how long it lasts, and allied to that is putrefaction.

One thing that struck me is with regard to the shock de retour, and its possible consequences. I believe that water does have some influence in attracting lightning, but whether still water is as bad as running water is another question.

I agree with those who say that 90 per cent. of animals that are killed by lightning shock have no marks of singeing.

The question of conductors is another point to be considered. I had a very interesting and clear case. There were three yearling animals involved. Two were dead and the other in a paralysed and hopeless condition. The two dead ones were near a strand of barbed wire. A new post had been struck and split 108 paces away from the nearest animal, and along the whole course of the barbed wire I could trace burn marks on each post, finishing at the gate post. My view is that the first animal was in contact with the wire, the other was not so close, and the third was further away still. Apparently the lightning killed the first instantly, passed on to the second, and killed it also, but lost its power before it reached the third.

I think that large groups of animals are certainly an attraction to lightning. (Applause.)

Mr. H. S. ELPHICK (Newcastle-on-Tyne): My experience with many insurance companies is this. Even if you give a certificate, positive or negative, it does not matter, because they will pay the man who makes the claim in order to retain the business.

I have seen numbers of cases of animals that have been killed together in which all showed marks of lightning fire, and all the animals have been struck on the same place on the body. Three horses passing through a gate were

all struck on the same part of their bodies. Thirty-five sheep were all struck on the nose and the right eye, and so on.

Nothing, so far, has been said about the mining industry. All up-to-date mines are filled with electric cables. I have had considerable experience in pit ponies. In all cases of mysterious deaths, where the animals have died in the mines a *post-mortem* must be made. In some of these cases the pony has been allowed to go to the water. The lad has left him temporarily, and later found his pony dead. A *post-mortem* reveals deeply congested blood vessels of the head, neck, and fore limbs. If one looks for the cause it is generally found that above the water trough is a cable. The pony has had his drink of water, put his mouth up to the cable, which has evidently had a leak, and down drops the pony dead. I always take particular care to notice that all guards on electric lamps in stables are tight, not only for the sake of the ponies, but also of the men who come along to do the whitewashing. I am obliged to you, sir, for your paper. (Applause.)

### The Reply.

Mr. S. J. Motton (Penzance), replying to the discussion, said: I have to thank Mr. Reeks, Mr. Standley, and all of you for dealing with the paper in the way you have done. I expected a few blobs to be thrown, but you have been kind, and everybody seems to have built the paper up for me. With regard to burns, I wished to have the question discussed. I do not think 90 per cent. of cases of lightning stroke show burns, but I do not think the figures are as much reversed as Mr. Standley says.

As to the incidence of lightning storms, and why trees and buildings should be affected sometimes and animals in others, I do not think the question can be quite answered. It hinges on what causes lightning storms, and we would want to know if the animals were in the same position in relation to trees and buildings in each case.

I have nothing to add *re* treatment.

With regard to wounds caused by lightning, I made a special point of that, because wounds are sometimes found, in human beings, which are caused by lightning, and which cannot easily be distinguished from injuries caused by some blunt instrument. In some cases it is very difficult to be dogmatic. The same applies to fractures. I should not like to be dogmatic with regard to twist of the intestine. I should hesitate to say whether a twist was caused by lightning or not. With regard to Mr. Gooch's remarks, I think there is no doubt about geological conditions having an effect on the incidence of lightning storms. The influence of water, flatness of land or substratum of rock, may, I think, be summed up thus: water can be counted out of it (I refer to rivers and sea), flatness of land has not everything to do with it, and the geological conditions have a great influence, as the maps indicate. I think Mr. Gooch's sheep were struck from earth. The reason for animals being more often struck than man depends on the fact that cities are rarely struck. Open places are, and animals are more often in the open. Marks on the skin are more easily seen on the human skin than on that of animals.

As to Capt. Minett's remarks *re* instantaneous death, I am not prepared to dispute much about that, but what I do know is that animals may or may not bleed from the nose and recover.

In nearly all recorded cases the voltage is mentioned but not the amperage, and it is the amps that count. In connection with any voltage you have to consider the resistance of the skin, which varies according to its moistness, dryness or what not, and makes a difference of anything from 400 to 20,000 or 30,000 ohms.

Mr. Standley asked how it is known that lightning may strike at one place and lead to deaths a mile away. It is a matter of direct observation. A steeple or some other object has been seen to be struck and to fall, and men or animals have dropped practically simultaneously a mile away.

Mr. Tudor Hughes practically answered the question *re* trees. If there are many more trees of a given kind in a district, than other trees, they will probably be more often struck. It depends upon the trees which predominate to a certain extent. Other things being equal, it has been proved that the trees which contain the most starch are the most attractive but, of course, in countries where oaks are most prevalent they would get struck more often than other trees.

Mr. Elphick has amplified the paper with regard to mining districts.

I hope I have covered everything, gentlemen; thank you very much.

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### Veterinary Inspection in the North Riding.

An animated discussion took place at the last meeting of the North Riding County Council on the motion of the Finance Committee that Mr. E. H. Pratt, of Northallerton, be appointed a whole time veterinary inspector at a salary of £750 per annum and travelling expenses.

Mr. Sturdy moved the reference back of the proposal, contending that the appointment was unnecessary, and the expenditure a further strain upon the ratepayers. The work, he said, had been quite satisfactorily carried out by the arrangements that had prevailed in the past. The country was over-ridden with inspectors, and it was time they called a halt. They were told that these veterinary inspectors were necessary to carry out the Milk and Dairies Order. No one wanted that Order, and he had not spoken to a M.P. who was in favour of it. The number of permanent officials of the Council had increased since 1924 from 107 to 117, with an increased salary list of £316 per year.

Mr. Hammond who supported the motion, said that the appointment of Mr. Pratt would be economical in the broadest sense of the word. It was also imperative for the Council to carry out the Milk and Dairies Order, and the Council would save part-time fees now paid to inspectors.

Sir Alf. Pease supported, and alluded to the invaluable *data* these inspectors would be able to collect in order to deal with the tuberculosis scourge among human beings and animals.

Mr. J. P. Yeoman said that at the present time the Council was spending £2,472 12s. 11d. in fees and expenses to part-time veterinary surgeons. If this appointment were made—and that of two assistant inspectors to be moved later—some £1,202 would be saved under the Tuberculosis Order. In addition, the inspectors would be able to do some of the work under the Diseases of Animals Acts.

The amendment was lost, and the resolution carried; a further resolution was carried that two assistant inspectors be appointed at a salary of £400 per annum each, an amendment by Mr. Sturdy that it should be referred back not being seconded.

PROFESSOR F. T. G. HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.
*Principal, Royal Veterinary College, London.*

**The Veterinary Record.**

*15th October, 1927.*

## *PROFESSOR F. T. G. HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.*

Few members of the profession are better known personally than the new Principal of the Royal Veterinary College, Camden Town. Few men, too, have crowded more into professional life and interest than he has done; indeed, it is a mystery to his intimate professional and other friends how he can possibly keep pace with his many activities, the majority of which centre round the advancement, fame and good name of the profession to which he belongs. Truly he may be reckoned as one of the profession's soundest pillars, and in his new rôle as head of our oldest teaching institution, at a time, too, when its complete renovation is necessary, an opportunity is offered to him still further to prove his personal mettle and devotion to our cause. It is needless to say that we look forward to everything that is best from his labour as a master builder in more senses than one, and he may rest assured of the profession's sympathetic support.

The record of his career and attainments is very enviable. Born in 1870, he was under age on graduation, and to fill in time he accepted employment as a pupil. On this account he has always advocated the advantages of pupilage. Teaching then claimed him from 1892-1897 at the Royal Veterinary College, Camden Town, subsequent to which, having taken up private practice, he was appointed examiner in veterinary surgery for the Diploma of the Royal College of Veterinary Surgeons. His service as an examiner covered periods amounting to eighteen years. A Fellow of the Royal College of Veterinary Surgeons himself, he was appointed an examiner for that Diploma in 1922.

During the Great War he served with the British Expeditionary Force, France, and afterwards with the Expeditionary Force sent from France to Italy. His first appointment in France was with No. 3 Veterinary Hospital to co-ordinate veterinary surgery; then, on the introduction of the intra-dermo-palpebral method of mallein testing, he was sent to units in the field to instruct veterinary officers in that method, and subsequently he was appointed to command No. 22 Veterinary Hospital, the reception veterinary hospital at Abbéville, to which was attached for administrative purposes the School of Farriery, a large and useful institution. Being a tented veterinary hospital, and easily movable, his veterinary hospital was selected to accompany the Fourteenth Corps sent to Italy. For his services in France and Italy he received the honour of C.M.G., the Order of Officier du Mérite Agricole (French), and the Italian Order of Cav. S. S. Maurizzio e Lazzaro. Major Hobday holds the honourable distinction of being honorary veterinary surgeon to His Majesty the King. He is also an Hon. Fellow of the Harveian Society, an Hon. Fellow of the Hunterian Society, an Hon. Member of the West London Medico-Chirurgical Society, an Hon. Member of the American Veterinary Medical Association, Correspondent Etranger Société Vétérinaire, Brabant, Belgique, an Hon. Member of the Société Centrale Vétérinaire de Paris, a member of our own Central Veterinary Society and Hon. Member of the North of England, Midland Counties, Southern Counties and Yorkshire Veterinary Medical Societies. He was also the moving spirit of the Comparative Section of the Royal Society of Medicine, of which he was the President for two years. He was the second recipient of the Victory Medal annually conferred by the Central Veterinary Society, and in the annals of the Royal College of Veterinary Surgeons he bears the proud distinction of being a "Steel Memorial" medallist. In the domain of veterinary surgery he is the author of several well-known and valuable treatises, and knowledge of his operation for the relief of roaring in horses is world-wide.

J. M.

### Parasitic Troubles in Sheep.

"It is a moderate estimate that puts the mortality in lambs in Great Britain due to parasitic troubles at 500,000 annually, or 5 per cent. The proportion of ewes lost from corresponding causes is probably as high, so there is a wide and important field for research in matters of the kind. Valuable investigations have already been conducted into these ailments, and certain forms of preventive treatment are known and have been practised with good results, but the field has not yet been fully explored, and it is to be hoped that greater attention will be given to research in animal diseases, in order that the losses and disappointments from what may be avoidable causes may be reduced and farmers be enabled to enter upon animal industry with greater assurance of reasonable success than has been the case hitherto. Considering our position as a stock-breeding nation, it is remarkable that we have been so lax in the work of studying and eradicating ruinous diseases. If the losses did not exceed 5 per cent. they would still be serious, but in individual cases they often reach 10 or even 15 per cent."—*The Times.*

## PROFESSOR JAMES MACQUEEN, F.R.C.V.S.

The well-merited honour conferred upon Professor James Macqueen by his appointment as Dean of the Royal Veterinary College has given great pleasure to the entire veterinary profession, and in this issue we present to the profession a slight appreciation of his worth.

Professor Macqueen was born at Avondale in Scotland and educated at Strathaven and Newcastle-on-Tyne. As a youth he migrated to America, which was at that time a land of romance. After a period there, during which he functioned in turn as a cowboy and miner, he fortunately came in contact with the late Professor Law. This gentleman evidently being as astute in his judgment of men as he was of animals, advised the young man to return to Scotland and procure the Diploma of the R.C.V.S. The outcome of this was that James Macqueen graduated from the Glasgow Veterinary College in the year 1877. After graduation he prepared to return to the U.S.A., but again his course was changed. This time the late Professor James McCall prevailed upon him to stay and assist him in his work at the Glasgow Veterinary College. He stayed nearly twelve years with Professor McCall, acting during that time as House Surgeon, and later as Lecturer in Anatomy, Materia Medica and Surgery. He obtained his Fellowship Diploma in the year 1886. In the year 1888 he acceded to the request of Sir George Brown, C.B., and took up an appointment in Junior Anatomy at the Royal Veterinary College, London, and thus began his long association with that venerable institution. In a letter to Professor Macqueen, Sir George said: "I think that it would be to the advantage of the institution if I could procure your services." Professor Macqueen's career at the R.V.C. was one showing steady and rapid promotion until he succeeded to the Chair of Surgery in 1895. In his progress towards this post he had undertaken the duties connected with the following subjects:—Anatomy, Botany, Histology, Hygiene, Surgery, and the Pathology of Cattle, Sheep and Pigs in succession to the late Sir G. Brown. One can see from this list that Professor Macqueen had an ideal training, *viz.*, one that was wide in scope, before specialising.

It is as a surgeon and clinician that the present generation know him best. An opinion given by him is one that is given with weight and consideration, and one that has long been recognised to be of "Gold Standard." As a teacher no one has a greater reputation. His lectures and "grind classes" are a feature of college life. His lectures are invariably written down *verbatim* (by rapid writers) and constitute the standard book on surgery to all Londoners. His crisp and biting tongue, coupled with a deep sense of humour, has saved many a man from a final season ticket, and is sure to command a large and attentive audience at any veterinary meeting.

As a consultant he has always been in great demand; his name is a veterinary household one, and there is no doubt that had he not felt that his college duties came first, he could have made a fortune.

In the realms of veterinary literature he has given good service. He has provided for us new revised or translated editions of Dun's "Veterinary Medicine," Fleming's "Operative Surgery," Fleming's "Horse Shoeing," Neuman's "Parasites and Parasitic Diseases of Domestic Animals." He is responsible for Veterinary Science in the *Encyclopædia Britannica*, and edited the second volume of the recent *Encyclopædia of Veterinary Medicine and Surgery*. Of original work he has given us of the best. His lectures are original and well worthy of book form. He was the pioneer of Equine Abdominal Surgery in this country; his observations upon this subject, given at the National Veterinary Association meeting in 1895, are unique. He is the author of many papers on surgical subjects and lameness which have gained him world renown.

Professor Macqueen has always given freely of his time in the interests of the profession. His association with the "National" goes back to his early days and during his membership he has filled every office except that of Treasurer. His deep sympathy for his less fortunate professional brethren is shown by his being one of the founders of the Victoria Veterinary Benevolent Fund. He has not been a great dabbler in veterinary politics, but it is interesting to note that as long ago as 1896 at the Royal Veterinary College, in a priceless, witty, sarcastic and educative speech he foreshadowed many of the changes which have taken place or are about to take place in the veterinary curriculum.

Professor Macqueen has held many public appointments. For nearly twenty years he has been Consulting Veterinary Surgeon to the Jockey Club; since 1910 he has acted as examiner and referee for the Ministry of Agriculture; for many years he acted as veterinary inspector at the Shows of the R.A.S.E., the Shire Horse Society and the Hackney Horse Society; since 1893 he has been an examiner for the Fellowship Diploma of the R.C.V.S. He was awarded the Steel Memorial Medal by the R.C.V.S. in 1915.

Professor Macqueen rivals Lord Dewar as a giver of epigrams, some of which well warrant reproduction:—

"In every walk of life you will meet people who prefer the black keys of the piano; men who would buy coal in bags could they be sure of the Millennium."

His advice to students, aptly quoting Carlisle:—

"Do not imitate Quashie, who lay under the flapdoodle tree waiting idly for the flapdoodle fruit to fall into his mouth."

"You will meet men whose word is their bond; prefer the bond, it is safer."

"The man who once masters the art of keeping his mouth shut when he has nothing to say will always command respect."

"This operation is not that of ——, who said that he had discovered the North Pole in a balloon, but it must have been his brother's."

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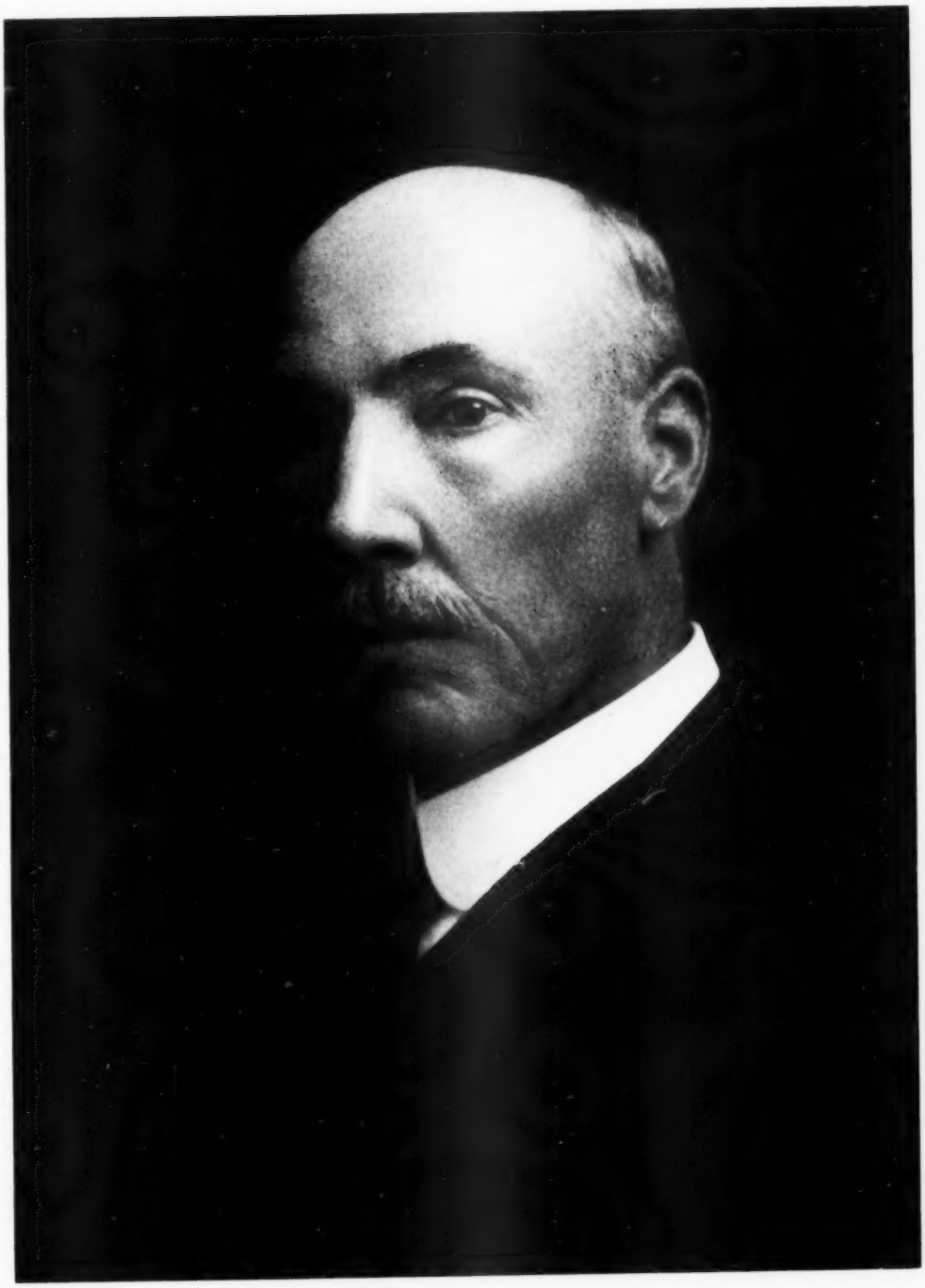

PROFESSOR JAMES MACQUEEN, F.R.C.V.S.
*Dean, Royal Veterinary College, London.*

## Royal Veterinary College.

"A New Chapter in the History of the College."

For the first time for many years the opening of the Royal Veterinary College, London, for the Winter Session, was made the occasion of a ceremony in which graduates were warmly invited to participate. The response was a good one, and as a result the lecture theatre was crowded on the afternoon of Tuesday, October 4th, when the Senior Vice-President, Mr. E. M. Crookshank, took the Chair.

Addressing the gathering, Mr. Crookshank said: This session a new chapter opens in the history of the Royal Veterinary College.

The College was founded in 1791 for the treatment of animals and for the training of students as veterinary surgeons.

It was about a century later that veterinary science made rapid progress.

In 1887, Professor Brown, Chief Veterinary Officer of the Board of Agriculture, who was also acting as non-resident Principal of the College, invited independent scientific men and members of the medical profession to give some special lectures and, later, courses of instruction in such subjects as physiology and bacteriology.

Obviously, it was only a question of time for all special subjects to be taught by professors who were members of the veterinary profession.

It was my privilege to be associated with Sir George Brown in promoting scientific education, and in conducting researches for the Board of Agriculture and, in 1892, we recommended to the Governors the appointment of Professor M'Fadyean as Professor of Pathology and Resident Dean. That was one of the greatest landmarks in the history of the College. (Cheers.) Professor M'Fadyean later succeeded Sir George Brown as Principal and his services have extended over 30 years. His genius for organisation and his power of imparting knowledge attracted a large body of students and established the great reputation of the College. It is true that Sir John M'Fadyean had the best material to work upon in the type of students.

It is equally true that he had the support in professional subjects of extremely able teachers. Two of them are still with us—Professor Macqueen and Professor Wooldridge. Professor Macqueen's services of 39 years have been recognised by the Governors by his appointment as Dean (cheers), a post of growing importance under the reorganisation scheme. On the other hand, Sir John M'Fadyean had to make the best of insufficient classrooms, of buildings out of date, and some of them insanitary and in a state of decay. We must except a small block built in 1890 at a cost of about £10,000 when Professor Brown was Principal.

In 1924, it was realised by the Governors that it was impossible to do full justice to the students, or the patients, in such dilapidated buildings.

A Report was submitted to the Governors and a strong appeal was issued by our Chairman, Lord Northbrook, for £50,000, to entitle the College to receive a grant of £35,000 from the Government.

Our very able architect, Major Maule, recently prepared a preliminary plan and was instructed to proceed at once with our new Principal to visit on the Continent the science colleges and veterinary buildings with which some of us were already familiar, and what they saw on their visit I understand caused amazement to both.

As Chairman of the Building Committee, I recognise that £100,000 or £150,000 is necessary to meet our *immediate* needs, but I venture to appeal in the strongest possible terms to the Government, to the public and to generous benefactors for £250,000, because the College and infirmary must be almost entirely re-built, and new departments erected for every branch of veterinary science and fully equipped. Professorships must be endowed, and possibly a farm acquired in the vicinity of London for animals under prolonged observation and for other uses. The College will be the centre of teaching of all subjects for diplomas and degrees, and will also be in what may be called the University atmosphere of London.

I appeal for further financial help to the Government, which requires highly-trained inspectors, and is spending millions in stamping out foot-and-mouth and other preventible diseases.

I appeal to the owners of the finest pedigree stock in the world, to those interested in racing, to all lovers of animals and to those in sympathy with the out-patient department, where the poor man's terrier and the coster's donkey receive the same skilled attention as the pets of the well-to-do; and I appeal to all those who welcome the step that we have just taken in admitting women students to the College. And I would remind millionaires that there is no more legitimate or satisfactory method of avoiding death duties than by giving large donations to the College, during life, and legacies.

We cannot remain hopelessly behind Germany, France, Italy and even small countries like Belgium and Holland, and we must eventually spend a quarter of a million of money. We shall then have created an infirmary and College supplying the most highly-trained veterinary surgeons as practitioners at home or in our Overseas Dominions. We can establish a centre for post-graduate teaching which would enable veterinary surgeons on their return to England from abroad to keep in touch with all recent progress. In short, we must have a great institution worthy of the City of London and the British Empire. (Cheers.)

To-day we welcome our new Principal. (Cheers.) Professor Hobday has had a very distinguished career; his name is a household word in the veterinary profession, and he has already shown his energy and enthusiasm in

(*Continued from previous page*).

We will terminate by congratulating Professor Macqueen and wishing him many happy years in his new office—an office no one is more fitted to fill, for in the words of the old Hippocratic oath:—

"He venerates his teachers, he has taught his art to his pupils, he has kept nothing secret from his profession, and he follows that system which, according to his ability and judgment, he deems best in the interests of his patients."

co-operating with the Governors in the great task which lies before us. I will now ask Professor Hobday to deliver his address. (Cheers.)

### Our Animal Friends as Patients.

Professor F. T. G. Hobday, the newly-appointed Principal of the College, who was accorded an ovation on rising, said: For some years, in fact, ever since the commencement of the Great War, the Opening Ceremony has been dispensed with, the last occasion on which it was held being in 1913, when Sir John M'Fadyean, my distinguished and revered predecessor, gave the opening address, with one of our well-wishers, Mr. Ernest Matthews, who is also present this afternoon, in the Chair; and to-day we are honoured by having, as our Chairman, the doyen of our Governors, Mr. Edgar M. Crookshank, the Senior Vice-President of the College, who has worked incessantly on our behalf for the past 40 years in the promotion of Veterinary Science and Research.

Few men have done more team work than these three in their endeavour to help the veterinarian and I am sure I shall be voicing the thoughts of everybody present when I say that we hope we shall see them here again on many occasions and for many years to come. (Cheers.)

I have selected as the subject of my address to-day the title of "Our Animal Friends as Patients," with the idea that it may be considered appropriate for this special occasion on account of the great effort which the British public in general, and the veterinary profession in particular, are making, at the present time, on behalf of arrangements for the care of sick animals. Ideas of humanity towards animals are becoming more and more broadcasted all over the world and, although Great Britain certainly leads the way in regard to the numbers of Humane Societies in proportion to her size and population, one has only to travel a few hours away amongst our Continental neighbours to find out that we are not the only nation who make laws to control cruelty against our animal friends; and some of them have already given us a lead. For example, in Holland there is a law by which every animal which is killed for food is "stunned to insensibility" before being touched by the knife, and what can be done in Holland can be done in England too.

Even the passing of the Eight Hours' Bill, which was primarily made for the benefit of man, has become of benefit to the beast, for since it has become law our cases of colic and bowel trouble in horses in large working studs in London have become reduced almost to a minimum; the reason being that the animal system does not become fatigued as it did in the days when horses were often ten and twelve hours with their harness on.

The establishment of up-to-date public abattoirs has done a very great deal in the cause of animal humanity, and as the director and the chief members of the staff of these places are always veterinary surgeons, our profession naturally has to play a large part in this aspect of things. To begin with, the training which the veterinary surgeon receives, makes him peculiarly fitted to judge, in a fair and level-headed manner, questions which deal with supposed or real pain inflicted upon animals, and this is especially so where expert evidence is wanted to decide a case at law. For the diagnosis of the existence of disease it surely ought scarcely be necessary even to make the remark that the proper man to give an opinion on the diseases of animals, whether it is a question of diagnosis or treatment, is the man who has been scientifically trained and has given his life to the study of the question; just as much as one looks to the human physician or surgeon as being the proper person to diagnose and treat human ailments. It is absurd to think otherwise and it has been due in the past to the mistaken modesty of ourselves that we have not taken our proper place in what is legitimately our own sphere.

It is probable that on occasions like this you will expect a reference to be made to the prospects of the profession; and also, perhaps, of the subject which seems to have recently caught the fancy of the special correspondents who collect material which they consider likely to be of interest to the numerous readers of popular papers, *viz.*, the lady veterinary student. In regard to the former, I can claim to speak with some authority, for I have been nearly 40 years in the profession and have occupied the respective positions of articled pupil, assistant, teacher, examiner, practitioner, and consultant, and I can confidently assert to an anxious parent that if his son is fond of animals and a healthy out-door life, and looks forward to earning a reasonable competency which is consonant with these ambitions, this will readily be found in the life of a veterinary surgeon. If the amassing of money is the object to be attained there is no profession which can compare with commerce. One cannot but admit that in some respects the veterinary is the Cinderella of the professions for, undoubtedly, those at the top of the tree in human medicine, in law, in engineering (to mention only a few), earn much greater incomes than is the case with us; but they have not the same joy and pleasure which the veterinary surgeon who loves his job has when a difficult operation, or the successful application of scientific knowledge, not merely saves the life of, but restores to health, a patient whose mute appeal has been the chief (and perhaps even the only) stimulus to engage in the contest. The path of veterinary science, too, has a much greater untrodden field, and offers many more opportunities for pioneer work than any other profession, and it is by no means overcrowded; in fact, I will even venture to predict that within the next ten years there will be a shortage of qualified graduates in more than one of its outlets.

Take, for example, the rapid manner in which the Veterinary Department of the Ministry of Agriculture has grown and the way in which the Veterinary Public Health Service is developing in Great Britain and the Colonies. Scarcely a week passes by now without an advertisement appearing in our veterinary press for graduates to fill whole-time posts as county veterinary officers to control contagious diseases in animals, or to go to administer this work in one or other of our numerous Colonies. Only this last Saturday, in our weekly paper, the *Veterinary Record*, I see that three such posts are advertised, one in Tanganyika Territory, commencing at £600 and rising to £840, with first-class passage out and sundry other privileges, and two research appointments in connection with the Ministry.

For the young man who prefers a fixed income with assured holiday time, to the variable and sometimes "rough and tumble" life of the general practitioner, there is much of interest to be found, but there is no royal road to it any more than in any other sphere of life.

In meat inspection England is only just beginning to awaken out of her long sleep, for we are a generation behind Continental countries in the compulsory installation of the proper man to guard the interests of the general public in this respect. Scotland and our Colonies have come into line, but our Continental neighbours have for years recognised that the only proper person capable of looking for disease in the flesh of animals is the man who has made these diseases a special study, *viz.*, the veterinary surgeon.

Every town of any size in France, Belgium, Germany, Holland, Sweden, Denmark, and most other countries in Europe, has its public abattoir with a veterinary official in charge as Director, and a properly-trained staff of veterinary and lay assistants. One can illustrate, as an instance of thoroughness in this respect, that the Berlin abattoir alone has over 50 well-salaried veterinary surgeons employed as whole-time men, whilst the modern-built and equipped abattoirs of Amsterdam and the Hague are a revelation in their methods both of humane killing and of cleanliness.

True veterinary research, too (by that I mean research in diseases of animals by trained veterinary scientists) has at last begun to come into its own, and we have now a number of well-equipped laboratories for veterinary graduates with field research workers in various parts of England in connection with the Ministry of Agriculture and certain of the Universities.

The Army, although now passing largely into the hands of mechanical transport, will never dare to abolish its animal side in its entirety, and the Royal Army Veterinary Corps will always need a certain number of veterinary graduates as veterinary officers.

The necessity for the supply of pure milk to the public and the freedom of this food from tuberculosis and other diseases, for infants and invalids, is evidenced every day by articles in the daily press, and there is no one better trained than the veterinary surgeon to aid the stockowner and the State to obtain this. It is here, too, where the veterinary surgeon becomes essential to his medical *confrère*, for it is well known that many thousands of people have acquired tuberculosis from the milk of consumptive cows. If you and the general public will only collaborate by insisting that your dairyman shall supply your children and your hospitals—and yourselves—with milk free from disease, tuberculosis will speedily become unknown in mankind.

I can scarcely dismiss the future of a veterinary career without alluding to the prospects of the lady graduates, whose numbers are increasing every year, not in Great Britain and Ireland only, but in every country. As you are all, I expect, aware, we have four duly qualified ladies' names on our Register and there are a number of students now passing through the classes.

For canine and animal practice, for the diseases of birds and poultry, and for laboratory research, the lady graduate can take her place as competently as can her male *confrère*. Germany has already two lady veterinary surgeons, each qualified by the highest examinations, which have earned for them the title of "doctor." One, Fraulein Dr. Von Durer, is an assistant to the Professor of Medicine in the Berlin School; and the other, Fräulein Dr. Eber, is the daughter of one of the Professors in the Leipzig University Veterinary Faculty. We were given to understand that she was about to marry a veterinary surgeon, so what her future will be no one can say.

Holland has one lady student, now in her third year; France had two graduates a many years ago, two Russian ladies who were each afterwards given Government positions under the State, and in our own Colonies the Australian Government has recently appointed a lady graduate as an inspector of stock.

To attain all these things, as I said a few minutes ago, there is no royal road—and perhaps it is because of the variety of our studies and our patients that the scientific pursuit of animal diseases is so fascinating.

It does not entail an armchair life, for the practical side of it requires just as much study as the theoretical. To become the finished article and to be able to append after one's name the mystic letters M.R.C.V.S. a man must not only know the book learning side of the profession, but be well acquainted with the habits and varieties of his animal patients. The bedside manner is even more necessary in the veterinary surgeon than in the medical man, for he has to gain a double confidence in that not only of his client, but also that of his patient.

To do this it is wise that the student shall become a pupil and "see practice" whilst at the receptive age. The sooner this is done after matriculating the better, and a few months with a practitioner in a country district will enable his parents and himself to decide whether he is fitted for the profession or not; and, the decision made, this should be followed up by spending each of the college vacations (which are arranged at suitable times of the year for this very reason) with a veterinary surgeon. By doing this he will instinctively acquire not only a knowledge of the habits of his patients, but, what is equally important to his success in future life, the way to manage his human *clientèle*.

We ourselves, who are old graduates and supporters of the London College are busy, as you know, in an endeavour to raise a sum of money sufficiently large to enable us to build an institution which is worthy of England and its animal patients. A minimum of £100,000 is needed for the buildings alone, and then there will be the question of equipment and the endowment of the Chairs. When one realises what the Governments of other countries have done for veterinary science and education, and how it has been neglected in England, one wonders how we, as a profession, exist at all. In Germany and France, even before the war, as much money was given to the support of the veterinary schools in one year as has been given to us in this country in one hundred years. At the present moment, it is true, we have the promise that if we can raise the sum of £35,000 the Government will help us with the same amount—a stimulus for which we are truly grateful; but a recent investigation made by a deputation sent abroad by the Governors and including Major Maule (the architect in whose care the designing has been placed)

has demonstrated beyond question that £100,000 will be the minimum required. Germany has just spent this sum on a new Veterinary Faculty which has been started and completed since the war in connection with the university of Leipzig, and I will show you on the epidiascope some photographs of this, the latest triumph of veterinary progress. In Berlin, the total cost of the School, which is again being added to, is £1,000,000, and the Schools at Hanover, Munich, and Giesen are models of their kind. Holland has, at Utrecht, the most wonderful anatomical, surgical, and canine departments of any veterinary school which it was our lot to visit, and each of these cost £25,000. Belgium, as you will see by the photographs, puts us to shame, and although the schools of France are not as modern as they might be, they too leave us far behind.

We want your help, and if you will assist in the raising of the money we will promise you a college second to none, in connection with which a remark made to Major Maule and myself, by one of our distinguished foreign colleagues, is worthy of repetition, *viz.*, that he could not understand the lack of support which we had experienced in the past ; as Great Britain was, in his eyes, *the* country of the world from which all the best pedigree and most valuable horses, cattle, sheep, pigs, and dogs, were exported. When one considers the ravages of contagious diseases and one knows that £20,000 is not an uncommon price for a racehorse, and that £2,000 and £3,000 are not at all unusual prices for pedigree cattle, whilst I have personally been called in consultation over a pig worth £1,000, and a dog recently went overseas for £2,000, you of the public will, I think, agree that we of the veterinary profession have a big national asset to guard, and that we are justified in asking you to help us to provide the funds for facilities to train our young men in the proper way to do this.

Already a number of schemes have been put in hand by kindly friends and sympathisers. Some have given sums of money and others have taken collecting cards or boxes, with which they make periodical raids upon the pockets of their friends, and I noticed an enthusiastic animal colleague in the quadrangle to-day making his mute appeal on behalf of his less fortunate brethren, and "shaking hands" with those who complied with his request, whose efforts have already resulted in a sum exceeding £20.

Some have organised entertainments and a number of Masters of Hounds have promised to cap the field, or to raise money for us by some sporting method. His Majesty the King, the Prince of Wales, and the Duke of Connaught, have given practical evidence of their interest in our scheme, and Her Royal Highness the Princess Mary Viscountess Lascelles, has graciously promised to present the prizes, which include a 50-guinea gold cup, given by Messrs. Spiller and Co. (the well-known caterers for all canine assemblies) at the Championship Dog Show which is to be held at the Crystal Palace on the 27th and 28th of this month ; a Show specially organised by the members of the Kennel Club Committee on behalf of the Rebuilding Fund of the College as an acknowledgement of the services gratuitously rendered by the veterinary profession to canine interests on many occasions.

You who are here to-day can help this object very materially by persuading your clients and friends to enter their dogs, recollecting that all the entry money, and everything else, will be given to our Fund, as the services of everybody, including that of the Committee and the energetic Secretary, Mr. E. T. Cox (whose name as an organiser of Championship Dog Shows is known all over the world) are given free. (Cheers.) To run a Dog Show of this dimension requires enormous labour and I am requested to state that as at least 50 or 60 voluntary stewards are required and that the names of students willing to act will be welcomed. Those willing to act should apply to Mr. Wight, the Secretary of the College.

We are very badly needing equipment and fittings for our various teaching departments, and it does not seem to be generally known, as it should be, that the College carries on an extensive out-patients' department for the benefit of the sick animals of the poor.

The Royal Veterinary College was the pioneer of this movement and since it started it has treated many hundreds of thousands of poor people's animals. As you can imagine, this Department in particular is a great drain on our resources, and there is room for some kind donor to come forward and present us with a waiting room and a proper operating theatre.

Once we have got that, we shall ask someone else to provide an operating table and its adjuncts for aseptic operating, which is as necessary in animal patients as in those of the human surgeon.

Medicines, bandages for fractured limbs, and dressings, are very expensive and as necessary for the poor as for the rich. Loose boxes and kennels are also needed, as many of our animal friends ought to be admitted to an infirmary, but we have no accommodation for these inside the gates. Even the epidiascope, so necessary for teaching purposes, is only borrowed, but I am hoping that if I only plead hard enough this afternoon some kind friend or group of friends will hand the Treasurer of the Rebuilding Fund the wherewithal to prevent its removal to-morrow morning.

We have a further urgent reason for emphasising this appeal, as we have just been served with a County Council Summons for the condition of our frontage, and the dangerous condition of certain of our buildings, and I am sure that all of you are too kind-hearted to allow Professor Macqueen and myself, as Dean and Principal (Sir John has just luckily escaped, whether by intention or not I do not know) (laughter) to spend our time chafing in one of His Majesty's prisons, working out in theory only, and without opportunity to practice, the formidable problem of how to make bricks without straw. (Cheers.)

Major General Sir John Moore, in proposing the heartily-accorded vote of thanks to Mr. Crookshank for presiding, referred to the fact that the latter had given his services to the work of the College with untiring energy and enthusiasm for over 40 years, during which time he had laboured unceasingly for the furtherance of veterinary education and research.

## Royal Institute of Public Health.

Under the auspices of the Royal Institute of Public Health, a course of lectures on " The Health of the Nation " is being held in the lecture hall of the Institute, 37 Russell Square, W.C., on each Wednesday to the middle of December. Professor F. T. G. Hobday will be the lecturer on October 26th, his subject being, " Some Diseases Conveyed to Man from Animals and their Prevention." Major-General Sir John Moore will occupy the Chair.

# CLINICAL AND CASE REPORTS.

## An Interesting Variation of the Classical Traumatic Pericarditis.

By R. A. S. Macdonald, B.Sc., M.R.C.V.S., Northern Rhodesia.

This case is recorded on account of the somewhat remarkable *post-mortem* examination findings, and in the hope that the description of the symptom complex may be of assistance in the diagnosis of obscure cardiac conditions.

*Subject.*—An eight-year-old pure-bred Aberdeen-Angus bull.

*Symptoms.*—Six months prior to the date of destruction, abnormalities were noted. The bull became a very intermittent feeder and would lie down on the pasture for an hour or two on end, during which time rumination entirely ceased. In the mornings and evenings, when stabled, he would eat and ruminate normally. Naturally he lost condition but did not become really thin until a month prior to destruction. From that time onwards he became progressively thinner and weaker until, during his last three days, he only rose with an effort, and moved with a dragging gait.

During the period of progressive emaciation the bull showed dyspnœa, but only from time to time—frequently his breathing was perfectly normal. Pulsation of the jugular veins on either side was almost constant and this, combined with the markedly allorhythmic nature of the pulse and the apparent absence of any lung lesions on auscultation, led one to a tentative diagnosis of lesions of the heart valves.

The final picture was as follows:—

(*a*) Animal lying continuously, with left fore-leg unnaturally extended.

(*b*) Complete inappetence.

(*c*) Temperature normal, eyes normal, fæces normal, urine normal.

(*d*) Membranes anæmic.

(*e*) Pronounced pulsation of the jugular vein of the left side and fainter pulsation on the right; pulse quite strong but completely allorhythmic.

(*f*) Frequent clonic spasms of the left fore-leg and shoulder region and ultimately of the right fore-quarter also.

(*g*) Occasional periods of dyspnœa lasting about fifteen minutes.

(*h*) No perceptible abnormality on auscultation of the lungs—heart sounds conveyed no information on auscultation owing to thickness of hide and thoracic wall.

The bull was destroyed by shooting.

*Autopsy.*—Carcase emaciated. Body fat normal. All viscera and glands quite normal except as undernoted:—

(*a*) Reticulum—contained two pieces of ordinary baling wire, one four inches long and the other shorter. The wall of the reticulum was carefully examined for a perforation but none was found. There was, however, a small area of reticular mucous membrane which appeared somewhat desquamated and which might have been (and probably in actual fact was) the site of a healed perforation.

(*d*) Liver—multiple abscesses.

(*c*) Kidneys—multiple abscesses and, in one kidney, a gangrenous area involving the hilus.

(*d*) Heart—actually encysted in the musculature of the left ventricle of the heart wall was a gangrenous sequestrum containing a fragment of jagged, semi-macerated bone measuring about an inch each way.

(*e*) *Note.*—There was no pericarditis, and the pericardial fluid was clear, and normal in quantity. There was no endocarditis. There was no evidence on the exterior of the heart wall as to the point of entry of the foreign body. The pericardium had been damaged by dissection and could not be carefully examined for a healed perforation.

*Hypothesis.*—The bull was a voracious and indiscriminate feeder. It had been grazing in the vicinity of a house whence dogs carried bones for leisurely crushing. It ingested a jagged fragment of bone which passed rapidly through the wall of the reticulum, the diaphragm and the pericardium, and penetrated the wall of the heart, where it was gripped and held by the contracting musculature. At first the foreign body in the heart caused little functional disorder, but after a period of months, and with the extension of the gangrenous process, the action of the heart was so disturbed as to exhibit the symptoms above described.

The multiple abscesses in the liver and kidneys may have originated in a trauma of the liver by the fragment of bone or by baling wire, or they may have been metastatic—originating from the primary septic process in the heart wall.

## What would appear to be an example of the Superior Diagnostic Value of the Double Intradermal Method in Tuberculin Testing.

By R. A. S. Macdonald, B.Sc., M.R.C.V.S., Northern Rhodesia.

*Subject.*—A three-year-old pure-bred Friesland cow.

*History.*—Imported from the Union of South Africa to Northern Rhodesia in March, 1927. Tested in the Northern Rhodesia Quarantine Area by the Subcutaneous (Temperature) Tuberculin Test on 25th March, 1927, when it returned a perfectly negative chart. Drafted from the Quarantine Area up country into what may be regarded as a tubercle-free territory, and into a tubercle-free experimental herd.

Re-tested for experimental purposes by the Double Intradermal method on 17th—20th May, 1927, when it showed a markedly positive reaction.

The cow was at this time in excellent condition and clinically sound. It was nevertheless destroyed and an exhaustive *post-mortem* examination performed.

*Autopsy.*—All viscera were quite normal. Close attention was paid to the lungs—these being cut into thin slices. No lesions were found.

All lymph glands were examined, the following with special care—posterior pharyngeal, cervical, mediastinal, bronchial and mesenteric. The only evidence of tuberculosis found consisted of several active lesions in two small bronchial lymph glands.

The nature of the lesions was indisputably confirmed by guinea-pig inoculation and microscopic examination.

*Conclusion.*—One is fairly safe in assuming that the cow did not become infected in Northern Rhodesia and that

she was actually, though very slightly, infected when she passed the temperature test at the end of March. Her reaction to the Double Intradermal Test fifty-five days later was very pronounced.

I have to acknowledge the assistance of Mr. E. H. Brogan, M.R.C.V.S., at the two *post-mortem* examinations above noted.

## Two Cases of Equine Tuberculosis.

By J. F. D. Tutt, M.R.C.V.S., Winchester.

Case No. 1.

*Subject.*—Brown cart gelding, seven years old.

*History.*—The owner reported that for some two or three months this horse had had a discharge from both nostrils with a cough and that the glands under the jaw were swollen. He desired that we should see the horse when we were that way.

*Symptoms.*—Our assistant saw the horse first and, in view of the symptoms present, prescribed steaming mixtures, febrifuges and embrocation to the enlarged submaxillary glands. Later, as the swelling of the glands made no improvement either one way or the other (*i.e.*, they did not tend to increase or to diminish) he prescribed potassium iodide internally, and applied a cantharides blister to the enlarged glands. As no improvement was noticed and the glands later became more enlarged and the horse started to waste, I arranged to see the horse personally.

On examination, I found the sub-maxillary glands on both sides very much enlarged and extending upwards and backwards towards the pharynx. Breathing was of a snoring nature (like that observed in cases of nasal polypus) and there was an offensive greenish discharge from both nostrils. The horse was rapidly losing flesh. It was seen two days later by Mr. J. B. Tutt, F.R.C.V.S., who applied the intradermal tuberculin test, to which it gave a very pronounced reaction, the swelling being as large as that observed in cases of glanders. It is of interest to note that a similar reaction was given to Mallein (Pasteur). I have noticed with Pasteur Mallein that, very often, a swelling is noticed, even in non-glandered horses—a swelling of some dimensions and which persists beyond the forty-eighth hour in some instances.

The owner consented to destruction and this was carried out.

*Post-mortem.*—Both lungs were full of miliary tubercles. The bronchial and mediastinal lymphatic glands were enlarged and contained caseating lesions. The submaxillary, pharyngeal and œsophageal lymphatic glands were greatly enlarged and contained similar lesions. Tuberculous growths were noted in the spleen, liver and kidneys. The mesenteric lymphatic glands were very greatly enlarged.

To place the diagnosis beyond dispute, portions of lung, glands, etc., were sent to Sir John M'Fadyean, who confirmed the condition as being that of tuberculosis.

No history is available as to whether this horse had cow's milk when a foal, but this particular farmer has, during the past two years, lost two horses from emaciation. Here, again, unfortunately, no history is available.

Case No. 2.

*Subject.*—Chestnut cart gelding, aged (about twelve years' old).

*History.*—This case occurred where there had been an antecedent case of strangles in a pony used at the same place for garden mowing. The owner thought that this was a similar case and advice was not sought until the horse had been laid up for some weeks.

*Symptoms.*—At the start, enlargement of the submaxillary glands was noted. The horse had throughout a high temperature, never less than 103° and often up to 105° or 105.6°. No cough existed. There was a more or less watery discharge, from both nostrils, that at times assumed a muco-purulent character, but it did not become offensive.

As no progress was made and as this case was under observation at the same time as Case No. 1, it was decided to apply the intradermal tuberculin test. This was done, a very pronounced reaction was given, and the owner advised to have the animal slaughtered.

Through a misunderstanding notice was not given of the time when slaughter was carried out, and it was not until some weeks later that I ascertained that the gelding had been slaughtered. The slaughterman who did it is a very experienced man, one who is able to tell tuberculosis when he sees it, and he has told me that this horse was rotten with it, and that he had great difficulty in getting his knife into the abdominal cavity owing to the enormous enlargement of the spleen with tuberculous growths. Both lungs, he states, were full of miliary tubercles, and there was a large tuberculous growth between the two main arteries in the thorax. The liver also was involved and of course the submaxillary and throat glands.

It is unfortunate that it was not possible to be present at the *post-mortem*, as the testimony of a slaughterman is not always reliable, but in this case I do not think he erred in describing the lesions he found as being those of tuberculosis.

A photograph of the reaction in Case No. 1 was taken, and if, when this is developed, it proves clear enough for publication, it will be forwarded.


## H.M. Stationery Office Publications.

The undermentioned have been published during the week. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28 Abingdon Street, S.W.1; Cardiff: 1 St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120 George Street

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| Ministry of Agriculture and Fisheries:— | s. d. | s. d. |
| Journal of the Ministry of Agriculture. October, 1927. (24-0099-10-27) ... | 0 6 | 0 6 |
| Diseases of Animals Acts. Annual Report of Proceedings under, for the year 1926. (24-0027-00-26) ... | 2 0 | 2 1½ |

## College of Pestology Exhibition.

LECTURE BY MAJOR HAMILTON KIRK.

An exhibition organised by the College of Pestology, Bedford Square, W.C.1, which, it is claimed, was the first of its kind ever held in any country, was opened on Thursday, September 22nd, at the Central Hall, Westminster, by Sir Alfred Fripp. The exhibition aimed at informing the public of the nature of well-known insect pests, and was calculated to arouse interest in the research work of the college, which was originally known as the Incorporated Society for the Destruction of Vermin.

Colonel CUTHBERT JAMES, M.P., as President of the college, introduced Sir ALFRED FRIPP, who commended the work of the college and said the menace caused by insect pests was, from every point of view, a matter of the greatest conceivable importance.

The exhibits included preparations of all kinds for killing bacteria and pests, disinfectants and soil sterilisers. The college stall contained an exhibit by the Ministry of Agriculture illustrating scientific methods of dealing with the rat pest, and there was an old invoice made out by "the official bug-destroyer to King George IV." The Metropolitan Water Board had an exhibit showing the means taken to safeguard London's water from infection by insects.

During the day a number of lectures were given. The speakers included Sir William J. R. Simpson, Colonel T. B. Layton, Dr. G. Clark Trotter, Medical Officer of Islington, Mr. A. Moore Hogarth (the Chairman of the college), Major Hamilton Kirk, Professor Aldo Castellani, and the Mayor of Westminster. Colonel LAYTON, who dealt with the common house-fly, said they had to educate people so that they would be ashamed to have flies in the houses. The useful information that had been obtained in recent years, and especially during the war, had not yet been sufficiently imparted to people in civil life.

### DOMESTIC PETS AND THE PARASITIC DISEASES THEY SHARE WITH MAN.

Major HAMILTON KIRK, in the course of his lecture, said: In response to the invitation of the Chairman of the College of Pestology, I have pleasure in placing before you a few facts relating to the pests or parasites which infest our domesticated animal pets, the cat and the dog.

From the word "pestology" one might imagine this to mean a study of *all* pests, which in its widest sense should include the microscopic organisms. This, I understand, is not the primary aim of the college, which seeks chiefly to educate the general public in the importance of recognising and eliminating the *mac*roscopic creatures.

The domestic cat is singularly fortunate in being the subject of comparatively few diseases and especially few infectious diseases. If we exclude skin ailments, the specific diseases may, indeed, be counted upon the digits of one hand, and of these only two have any significance for the human race, namely tuberculosis and diphtheria.

*Diphtheria.*—If I may be permitted to deviate slightly from the title of this paper, I would say—as regards diphtheria—that the poor cat has for long been blamed as a disseminator of this infection; but it has been fairly conclusively proved by human and veterinary bacteriologists that this allegation has very little foundation in fact. It is true that the clinician will occasionally meet with a cat showing diphtheritic lesions in its throat resembling those seen in true diphtheritic throats of human beings, but these are due to a bacillus which differs culturally from the true bacillus of diphtheria. Moreover, they are frequently secondary to some other disease such as distemper, and are rarely of primary importance.

The matter is of great importance from a Public Health point of view, and whilst the cat may certainly suffer from malignant sore throat which is infective only to its own species, an assurance can be given to those cat-owners who are apprehensive that no harm is likely to befall them from the maintenance of a cat in the home.

In alluding to this question of diphtheria I said that I was deviating slightly from the title of my paper. But upon consideration, although diphtheria may not be a parasitic disease in the commonly accepted sense of that term, yet it is profoundly associated with the question of slums and filthy homes, in the solution of which the College of Pestology manifests the most intense interest. This being so I may perhaps be excused if I make a few remarks upon tuberculosis as an infectious disease shared by man and animals.

*Tuberculosis.*—Unfortunately the feline species is not immune to tuberculosis, the domestic cat being affected to the extent of about 3 to 4 per cent. The disease gathers importance from its communicability to the human race, little children being especially endangered from their habit of cuddling and kissing their pet animals. There seems a tendency to overlook the possibility of this disease occurring in dogs, cats, monkeys or parrots; that is to say, it is frequently forgotten and unsuspected.

In view of the high degree of resistance manifested by cats to the human tubercle bacillus, experimentally introduced, it is not to be anticipated that this type of bacillus plays an important part in the causation of naturally acquired tuberculosis in cats. Yet specific instances have been known in which cats have contracted the disease from their consumptive owners.

Cases of tuberculosis occurring in a household might easily and erroneously be thought to emanate from the family dog or cat. But it should be borne in mind that the chief source of tuberculosis in domestic cats is the drinking of milk from tuberculous cows. Human beings are just as likely to contract the disease from the same source.

So it would appear at first glance that the cat is a somewhat dangerous animal in so far as tuberculosis is concerned, yet we should bear in mind that only 3 to 4 per cent. of cats, at the outside, are affected, and that none of them emulates the dangerous human habit of expectorating, and therefore usually has very little opportunity for spreading the disease.

*Mange.*—Reverting now to true parasitism. Of the contagious skin diseases of dogs and cats, only two are communicable to man, namely mange and ringworm. Dealing first with mange; it can be safely said that only upon comparatively rare occasions does a human being contract this disease from an animal. When one thinks of the millions of dogs and cats which reside in these islands, and of the hundreds of cases of sarcoptic mange

occurring among them annually, one has only to realise how exceedingly rarely one encounters or even hears of a person who is able to state that his or her skin complaint can be directly traceable to an animal.

Veterinary surgeons are handling such cases daily and yet they rarely contract such affections. Nevertheless, concrete cases are known to have arisen from time to time in which mange in the dog or cat has been followed by an itchiness in its owner, microscopical investigation having proved that the parasites taken from the lesions in each case were identical.

Each animal has its individual parasite possessing a characteristic size and shape ; so that once the creature is found there is no mistaking its source of origin, provided that the investigator knows what he is looking for. Scabies which is contracted from a dog or cat is, however, a much more benign malady than the true *human* scabies, and there is no great difficulty of getting rid of it if the proper measures are early adopted.

Reference might well be made to that other type of skin disease—Follicular mange. Curiously enough, when this occurs in a dog it is often regarded as incurable and eventually fatal. Cats, on the other hand, rarely, if ever, suffer from it and man is known frequently to harbour the Demodex in his skin without it even occasioning the slightest inconvenience. These points are eloquent testimony to the fact that parasites have predilections for certain hosts as well as for certain portions of the host.

*Ringworm.*—Next I will touch upon ringworm. This fungoid affection of the skin is occasionally encountered in dogs and cats on account, no doubt, of its prevalence among rodents. Rats and mice are affected principally with a type of ringworm known as Favus, and it follows that this type is infective for the cat and dog. These animals may also contract a favus from man, and in turn may affect *him*. Cases have been reported in which human beings have become infected by their pet animals with ringworm and whilst it is not by any means a serious disease it sometimes proves very troublesome to eradicate. Whilst ringworm sometimes appears to set up some slight irritation in dogs, nothing can be felt by the human being and practically nothing at all by cats.

The ringworm which is conveyed from cats to man usually attacks the body only, whilst that conveyed from man to man most often affects the head. The former type may generally be cured in about three days, thus differing from the scalp type which frequently is amenable only to ultra-violet ray or X-ray treatment.

*Fleas.*—One of the most readily contracted parasites of the domestic pets is the nimble and ubiquitous flea. It is in every sense of the word a pest, being no respector of persons and setting up endless trouble wherever it is encountered. I would always far prefer to disinfest a dog of lice than of fleas, because the louse adheres very closely to its host and is too slow to escape remedial measures.

The flea is a blood sucker, and it is conceivable that a really badly infested animal or person will suffer not only from loss of sleep or peace of mind, but may also become somewhat anæmic. In addition, the continuous irritation set up, plus the responsive scratching by the victim, eventually causes a mild dermatitis, ending not infrequently in eczema.

A serious aspect of the infestation of man by fleas is the ease with which these insects can transmit diseases from one to another.

They are definitely known to cause, in man, insomnia, plague, infantile kala-azar and tapeworm. It is conjectured also that they have a rôle in the transmission of a disease of rodents known as tularemia.

The most serious charge against them, however, is their dissemination of bubonic plague, which, as a human scourge, ranks with such diseases as small pox and leprosy. In fact, few diseases have ever ravaged the human race with more terrible destructiveness than plague when it breaks forth as an epidemic and becomes rampant.

It is estimated that in the epidemic of the 14th century in Europe, one fourth of the population of that continent, or 25 million people, died of the disease. The practical disappearance of plague from Europe is thought by some authors to be associated with a change in the rat fauna of Europe, the domestic and gregarious black rat (*Epimys rattus*) being replaced by the wilder and more scattered brown rat (*E. norvegicus*).

In 1900 the disease was introduced into San Francisco, and there is every reason to believe that had knowledge of preventive medicine been at the point where it was 300 years ago, the United States would have been swept as was Europe in the 14th century. Instead, knowing that rats were the chief reservoir of disease and that rat fleas were instrumental in transmitting the disease from rat to man, the United States Public Health Service took hold of the situation and instituted an anti-rat campaign.

In India, the human flea (*Pulex irritans*) and the European rat flea (*Ceratophyllus fasciatus*) have been proved experimentally to be plague carriers ; and in Australia the squirrel fleas (*C. acutus*) also carry infection. It is evident also that other animals besides rats and man are susceptible to the disease, such as ground squirrels, guinea-pigs and monkeys.

Dogs which are fond of, and clever at, ratting, are bound to contract rat fleas ; and man who lives with the dog will contract them also. So that a dog may become the innocent cause of a great deal of harm if it is not supervised as to its cleanliness.

Mediterranean kala-azar, or black fever, which is an extremely fatal epidemic fever resembling chronic malaria, is a malady which is transmitted by bed bugs and probably by fleas. It occurs naturally in dogs around the shores of the Mediterranean, and can be experimentally transmitted not only to dogs, but also to rats, mice and monkeys. Cats cannot be successfully inoculated. It is believed by some that the disease in dogs is different from that in children, but the similarity in symptoms, the geographical distribution, as well as the facts that dogs can be infected by parasites from human beings, and other dogs from these dogs, all point to the identity of the diseases. Since so many dogs around the Mediterranean are infected, although only a small number give any indication of it, they probably serve as a reservoir of the disease.

Not infrequently, children attacked by kala-azar have been known to have played with diseased dogs, and it is

easy to see how the fleas which almost always infest dogs in these regions could infect children.

Another instance of the instrumentality of fleas in the transmission of disease is their relation to the spread of certain species of tapeworms, especially the common dog tapeworm (*Dipylidium caninum*). The larval stage of this tapeworm is passed in the body cavity of the dog flea (*Ctenocephalus canis*), the eggs of the parasite adhering to hair in the vicinity of the anus being ingested by the flea. Occasional infection of human beings, especially young children, occurs by the accidental swallowing of infected fleas, a thing which could easily happen in cases of too great intimacy between children and their pet dogs. As many as fifty larvæ of the Dipylidium have been found in a single flea.

The relation of fleas to other diseases is suspected. A German writer has put forth the theory that fleas are instrumental in the transmission of typhus. If typhus is purely a bacterial disease, its spread by fleas and other parasites, as well as by lice, would be quite possible; but if it should be found to be caused by an organism which requires a true intermediate host, it would be doubtful whether such widely different insects as lice and fleas could both function in the same manner.

A very important point in the consideration of methods of prevention or eradication of fleas is that the eggs of dog and cat fleas are usually laid loosely in the fur o their host, whence they readily fall out when the animal shakes himself or is settling down for a nap. They develop in the dust and dirt of kennels, woodsheds, housefloors, and other places where infested animals are likely to go.

Houses, of course, become infested through the agency of infested animals, and since the fleas, once in houses, encounter man more frequently than they do the original hosts, man is very likely to suffer from their attacks. I have seen the cushions on chairs, non-furry hearthrugs, and other articles upon which infested pet animals have been sleeping, literally one mass of flea eggs which, so aggregated, look like grains of silver sand. The same, of course, happens to carpets and all upholstered furniture and one can readily understand how houses into which infested pets are admitted become overrun with fleas. It is not the fault of the animal, but of the unobservant or lazy owner who fails to adopt any measure whatever for the abatement of the nuisance.

*Lice.*—I will now pass to a consideration of the rôle of lice in the spread of disease. The association between the two was for a very long time suspected, though in an indefinite and uncertain way. In 1909, however, Nicholle proved that typhus fever could be transmitted by the body louse; and he found also in 1913 that relapsing fever could be transmitted likewise. It was further discovered, during the Great War, that trench fever is a louse-borne disease.

Lice are said also to consume the eggs of the common dog tapeworm (in the same way as fleas will do) and of course eventually become themselves consumed by the dog. In this manner lice convey tapeworm.

In addition, there is really no reason why syphilis could not be transmitted by their aid, especially during the second stage of the disease when the spirochætes are present throughout the blood. Apart from specific diseases, when a human being or an animal is badly infested with lice, it becomes the subject of anæmia, insomnia, eczema, ophthalmia, impetigo, traumatic sores and often of emaciation.

The association of the louse with the spread of typhus is very important. Typhus has followed in the wake of nearly every army which has ever been assembled, and solely on account of the presence of lice. During the late war, however, typhus was largely absent from the armies and populations of Britain, France and Germany in consequence of the intense anti-louse measures which were enforced by these countries. The less scientific and less cleanly nations suffered enormous losses.

Now, the dog suffers as much from lice as does man, and the parasite may change hosts when opportunity arises; so that it becomes incumbent upon every decent living person to ensure that his domestic pets are free from such pests, for his own safety no less than for the sake of the animal's comfort and health.

*Worms.*—I will conclude my paper with a few remarks upon the worms which infest the alimentary canal of the dog and cat. These, with one notable exception, are of little importance to the human being, for although the *Tænia cucumerina*, or common tapeworm of the dog, may be transmitted to man, the worm of outstanding importance to public health is the *Tænta echinococcus*.

This is the smallest tapeworm which inhabits the dog, its length varying from $\frac{1}{5}$th to $\frac{1}{2}$ an inch. Very fortunately its incidence in the canine species (at least in Great Britain) is rare, for it has a particularly dangerous significance to human health. All cestodes require an intermediate host in order to effect their evolution and for the majority of them this host is one of the domesticated herbivora—sheep, horse, goat, ox, rabbit and pig; and in some cases man becomes the intermediate host much to his discomfort and occasionally to his danger.

In some parts of the world infection with the hydatids or larvæ of Echinococcus is very common, especially in children. In Iceland where there is very close association between the human and the canine population, two or three per cent. of the inhabitants are affected, and in certain districts, as high as 10 per cent. In Australia, also, this tapeworm is common in dogs, and its larvæ occur in a considerable proportion of human beings as well as in stock.

The Echinococcus may occur in hundreds or even thousands in the intestines of dogs though it often escapes notice on account of its small size. The eggs of the worm, dropped in pastures with the fæces of infested dogs, ordinarily develop in sheep and cattle, etc. Human infection usually results from a too intimate association with dogs, and children and ladies especially are liable to infection by allowing dogs to kiss them or lick their faces, with a tongue which, in view of the unclean habits of dogs, may be an efficient means of transmission for the tapeworm eggs.

The hydatids develop in many different organs of the body. The liver is a favourite site, after which in order of frequency, come the lungs, kidneys, spleen, etc., etc. These embryos develop very slowly but very surely and may attain huge dimensions. It has not been an uncommon sight on *post-mortem* examination of cattle to find a liver which should normally weigh about 16 lbs. increased to

200 lbs. It is the great size to which hydatids may grow which makes them so very dangerous, expecially if they occur in such organs as the heart, kidney, or brain.

It is comparatively only recently that I read of the death of an old lady which was said at the inquest to be due to Echinococcus cyst contracted from her pet dog.

## Western Counties' Division.

### Meeting at Torquay.

A business meeting, in place of the usual Summer one, was held at the Town Hall, Torquay, on Tuesday, 13th September.

The President, S. J. Motton, Esq., F.R.C.V.S., presided, and there were also present: Messrs. E. C. Bovett (Glastonbury), E. W. Bovett (Bridgwater), J. Dunstan (Liskeard), Principal F. T. G. Hobday (London), Messrs. C. Masson (Torquay), L. Norman (Chudleigh), W. B. Nelder (Exeter), and R. Barons Nelder (Hon. Secretary). Before proceeding with the ordinary business, the meeting stood in silence to pass a vote of sympathy with the widow and relatives of the late Professor Penberthy and Mr. W. Penhale.

The minutes of the last meeting, as published in the *Veterinary Record*, were taken as read, and were confirmed and signed as correct.

*Correspondence.*—(1) Letters regretting inability to attend were received from Messrs. P. W. Bloye, C. Crowhurst, E. R. Edwards, J. Forbes and J. P. Penhale.

(2) A letter from the General Secretary of the N.V.M.A. informing the Division that the Resolution dealing with the sale of tuberculin had been confirmed by the Council at its April meeting and that steps were being taken in this matter.

(3) A further letter from the General Secretary of the N.V.M.A., concerning the formation of a Veterinary Inspectors' Section in the Division. It was decided to put this question on the Agenda of the next meeting, as it was considered to be a very important matter and the present was only a small business meeting.

(4) Letters from the Hon. Secretary of the local branch of the R.S.P.C.A. and also from the Chief Secretary thanking the Division for the resolution passed at the March meeting.

(5) Annual Report from the Victoria Veterinary Benevolent Fund.

*Election of New Members.*—The following new members were elected: Mr. J. M. L. Penhale, Exeter, proposed by Mr. E. R. Edwards, seconded by the Hon. Secretary. Mr. W. C. Smith, Minehead, proposed by Major J. Cochrane-Dyet, seconded by the Hon. Secretary.

*The Next Meeting.*—Mr. J. Dunstan proposed and Mr. C. Masson seconded that the next meeting be held at Plymouth. This was carried unanimously.

The meeting concluded with a vote of thanks to the President for his conduct in the Chair.

R. Barons Nelder,
*Hon. Secretary.*

# NOTES AND NEWS.

**The Editor will be glad to receive items of professional interest for inclusion in these columns.**

## Diary of Events.

Oct. 15th—Meeting of the Scottish Branch, Gleneagles, Perthshire.
Oct. 21st—Meeting of the Mid-West and South Wales Division at Cardiff.
Oct 26th—Meeting of the Comparative Medicine Section of the Royal Society of Medicine.
Oct. 27th—Royal Veterinary College Championship Dog Show, Crystal Palace.
Oct. 27th—Lecture by Major Dunkin, on "Distemper," Crystal Palace, at 5 p.m.
Oct. 28th—Presentation of Prizes by H.R.H. Princess Mary at Royal Veterinary College Dog Show, Crystal Palace.
Nov. 3rd— Central Division Annual Dinner

### The Congress Number of the "Record"

Will those readers who, in most gratifying numbers, have written expressing their appreciation of last week's Congress number of the *Record*, accept our warmest thanks for their tributes However heavy our mail-bag, such letters are more than welcome as the type of tonic of which we cannot take an overdose.

Members desirous of securing additional copies of the Congress Number of the *Veterinary Record* (October 8th), or of the N.V.M.A. Handbook, are requested to apply without delay to the Editorial Representative, N.V.M.A., 10 Gray's Inn Square, W.C.1.

### Dinner to Colonial Delegates.

At the meeting of Council of the Royal College of Veterinary Surgeons, held on the 7th instant, the President announced that a dinner would be held, on a date to be fixed, in honour of the members of the College who are delegates from the Dominions and Colonies to the Imperial Agricultural Research Conference, to which, also, other guests would be invited. The date will be fixed to suit the convenience of the delegates, and will probably be during the first week in November.

Further particulars will be announced later.

### Coincidence.

Three Presidents of the Royal College of Veterinary Surgeons were old High School, Edinburgh, boys, *viz.*, Wm. Owen Williams, Sir Stewart Stockman and the present President, Lt.-Colonel J. W. Brittlebank. Professor S. H. Gaiger, a member of the Council of the Royal College of Veterinary Surgeons, and Professor J. Russell Greig, of the Royal (Dick) Veterinary College, Edinburgh, were also High School boys.

### R.C.V.S. Obituary.

Anderson, John, Ards-Caledon, Co. Tyrone. Graduated, Edinburgh, 18th December, 1909. Died, 2nd September 1927.

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The Corporation of London have allowed Lieut.-Col. T. Dunlop Young, their veterinary inspector, to accept an invitation from the Australian Government to visit Australia in connection with the methods of inspection and exportation of meat.

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### Royal Veterinary College V.M.A.

The following awards have been made to their essayists by the Royal Veterinary College Veterinary Medical Association: First Prize, Mr. J. B. White; Second Prize, Mr. S. J. Edwards; Third Prize, Mr. W. J. Cooper. For the ageing of animals first place was taken by Mr. E. Messervy, with Mr. S. J. Edwards second and Mr. L. Gabriel third.

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### Colonial Appointments.

The following appointments have been made by the Secretary of State for the Colonies during the month ended 30th September, 1927:—

| *Name.* | *Appointment.* | *Colony.* |
|---|---|---|
| Lieut. R. Coulthard, M.R.C.V.S. | ... Veterinary Officer ... | Nigeria. |
| Mr. T. T. McGrath, M.R.C.V.S. | ... Veterinary Officer ... | Fiji. |

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### Will.

Davey, Major George Marks, M.R.C.V.S., A.V.C. (T.F.), of Fredericksdal, Allerton Road, Liverpool (unsettled) (net personalty *nil*), £2,466.

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## CORRESPONDENCE.

**Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.**
**All correspondence must bear the name and address of the contributor for publication.**
**The Editor does not hold himself responsible for the opinions of his correspondents.**

### Free Veterinary Aid.

To the Editor of The Veterinary Record.

Sir,—You were good enough to publish, some little time ago, a letter from this Society expressing our desire for the co-operation of Veterinary Surgeons in a scheme for giving free veterinary advice to poor people, who would be provided with "recommends" vouched for by our local officials, much in the same way as doctors supply their patients with hospital letters. I write to thank you, on behalf of my Council, most cordially for the excellent response we have received from Veterinary Surgeons in various parts of the country. It is most gratifying that the profession has come forward in this public-spirited way.

I feel sure that there are still some Veterinary Surgeons who would care to register their names under this scheme and if so I shall be only too delighted to furnish them with full particulars.—Yours faithfully, E. G. Fairholme, Captain, Chief Secretary.

Royal Society for the Prevention of Cruelty to Animals,
105 Jermyn Street, London, S.W.1.
*7th October*, 1927.

[In view of the above letter, we would remind our readers of the following resolution, which was adopted at the Congress at Torquay: "That the Council of the National Veterinary Medical Association of Great Britain and Ireland has every sympathy with all efforts made to further humanity to animals, and that it feels sure that all members of the profession will, on all occasions where necessary, render assistance at reduced fees in deserving cases."]

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### A Banquet Disclaimer.

To the Editor of The Veterinary Record.

Sir,—Of course I cannot blame anyone. I brought it on myself. But I scarcely think I was guilty of the Latinity attributed to me on page 866 of your issue of 8th October—even after dinner.—Yours faithfully, O. Charnock Bradley.

Royal (Dick) Veterinary College, Edinburgh.
*10th October*, 1927.

("Peccavi!" cries the local reporter—but, Doctor, between ourselves, no one else appears to have noticed anything.—Ed.).

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*The Editor acknowledges the receipt of the following*:—

Report of a meeting of the North Wales Division, from Mr. Howel V. Hughes (Hon. Secretary).

Communications from Capt. A. W. Noel Pillers and Mr. R. H. Smythe.

Report of the Civil Veterinary Department, Assam, for the year 1926-27.

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